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In this issue

Team Teaching

STUART E. DEAN

Science Teaching Under NDEA

ALBERT PILTZ

SEPTEMBER 1961



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Education and the national goals

by **STERLING M. McMURRIN**

From an address given at a conference on educational administration, Harvard University, Cambridge, Mass., July 20, 1961.

THERE ARE two common assumptions regarding our society that now deserve a most serious examination. The first expresses in a sense the very meaning of democracy, that there is an inevitable coincidence of the good of the individual with the good of the society taken in its totality. It is the common belief that a course of action that genuinely ministers to the dignity and intrinsic value of the individual and cultivates his talents and capabilities and encourages his commitment to high purpose will necessarily build into the social structure and the state a strength that will guarantee their full integrity and their lasting power even in great adversity. But this is an assumption that has never been fully tested by our Nation or any other nation, for in circumstances that have fundamentally challenged the strength of the democracies, as in the event of war, they have resorted to various forms of regimentation that have at certain points suspended the principles and practices normative for a democratic society. This regimentation, together with the emotional power that surges through a society in imminent danger, has strengthened us through the great crises of our past. The question that we now must ask is whether without the regimentation of human souls and their resources that we quite properly abhor and through a protracted period of collective anxiety that commonly weakens rather than strengthens a nation's character, we have the intellectual, moral, and spiritual resources to guarantee our security in the presence of totalitarian states of great power. It is now entirely clear to us that,

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE • ABRAHAM A. RIBICOFF, *Secretary*

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Brief.

EDUCATION AND GOVERNMENT

Reports

Surplus property report

During the last quarter of the 1961 fiscal year (April, May, and June), the Department of Health, Education, and Welfare made \$99 million worth of surplus Federal property available to the States for educational, public health, and civil defense purposes. Real property accounted for \$14.6 million and personal property for \$84.5 million.

Under the provisions of the Federal Property and Administrative Services Act of 1949, property the Federal Government no longer needs is distributed to educational, public health, and civil defense agencies of State and local governments and to eligible nonprofit health and educational institutions exempt from Federal taxes. Regional offices handle transactions.

Property transferred this quarter includes such items as school and hospital building sites; buildings suitable for college dormitories or faculty housing; hospital, school, and office furniture and supplies; motion picture projectors; and laboratory equipment.

Rehabilitation committee

Representatives of three major Federal agencies meet regularly as an Interagency Committee on Vocational Rehabilitation to coordinate agency programs: Department of Health, Education, and Welfare (Office of Vocational Rehabilitation), Department of Labor (U.S. Employment Service and Veterans Employ-

ment Service), and the Veterans Administration (Departments of Veterans Benefits and of Medicine and Surgery). Members exchange information on programs and developments; carry out interagency agreements, proposing changes when necessary; stimulate interagency cooperation in studies and research projects; and consider problems and ways of solving them, such as establishing a cooperative training program for rehabilitation workers.

Two States—Connecticut and Arkansas—have committees similar to the Interagency Committee on Vocational Rehabilitation.

The deaf at college

Among the films on loan by the Captioned Films for the Deaf program of the Office of Education is one which received a nomination for a 1960 "Oscar" award in the category of documentary short subjects from the Academy of Motion Picture Arts and Sciences. Entitled "Beyond Silence," the 15-minute film was made on the campus of Gallaudet College with students and faculty members as players.

"Beyond Silence" is also available without captions for noncommercial educational use by purchase from United World Films, Inc., 1445 Park Avenue, New York 29, N.Y., for \$31.31 a copy.

Gallaudet, the world's only college for the deaf, is partly supported by the Department of Health, Education, and Welfare.

Documents expediting service

Subscribers to the Documents Expediting Project at the Library of Congress receive a unique service: They automatically receive nondepository U.S. Government publications not available for purchase at the Government Printing Office or from the issuing agency. The project acquires these publications by checking the publications lists of all Federal agencies, accessions lists of libraries specializing in public affairs, and advance proof sheets of the *Monthly Catalog of United States Government Publications* for desirable nondepository items. Through agreements with distributing offices it can often distribute material before the general distribution date.

Other services of the project include tracking down out-of-print or scarce Government publications at the request of a subscriber and distributing sample issues of new Government serials with order slips.

Among the publications the project distributes automatically are the reports of the Office of Education's cooperative research program and new educational media research program (title VII, National Defense Education Act).

Sponsored by a joint committee of library organizations and administered by the Library of Congress under contract with the committee, the project is self-supporting through subscription fees. These fees range from \$100 to \$500 a year, plus a flat fee of \$25 a year for postage. Sub-

scribers determine the amount of subscription, and the amount they subscribe determines their priority in the distribution of material. The project has been operating since 1946.

For more information about the service write to Documents Expediter, Library of Congress, Washington 25, D.C.

Organization handbook

United States Government Organization Manual, the official handbook of the organization of the Federal Government, is a perennial "best seller" at the Government Printing Office. The basic, comprehensive, and up-to-date information it contains on all three branches of the Federal Government, information available in no other single publication, makes it a widely used aid in civics, government, and other classes.

Among the manual's contents are an outline of the legislative authority for and the purpose and function of each executive agency; 41 charts on the organization of the Congress, the executive departments, and the larger independent agencies; and a list of names of more than 4,200 key officials. A 58-page section gives brief histories of Federal agencies whose functions have been abolished or transferred since March 4, 1933. Another section lists several hundred representative publications issued by agencies that are available for purchase. And a 36-page section describes quasi-official and international organizations in whose work the United States Government participates.

The manual is compiled each year by the Office of the Federal Register, National Archives and Records Service, General Services Administration. It may be purchased for \$1.50 a copy from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.

Opportunities in biology

Because biology is offering more and more opportunities to women, the Women's Bureau of the Department of Labor, in its new leaflet, *Job Futures for Girls in Biology*, urges the girl with a bent for science to consider biology as a career. The leaflet contains information on what biologists do, where they work, and how students can prepare to enter the field. It is for sale by the Superintendent of Documents, Government Printing Office, Washington 25, D.C., for 5 cents a copy.

UNICEF greeting cards

For more than 10 years people in over 90 nations have bought UNICEF note and greeting cards to help the sick and needy children of the world. UNICEF estimates that three out of four of the world's children are in need of help. Proceeds from the sale of one box of cards will provide eight hungry children with a daily glass of milk for a month. Proceeds from 1960 sales were enough to equip 20,000 small maternity and child health centers.

UNICEF cards are truly international cards. They come inscribed with "Season's Greetings" in the five official languages of the United Nations, or plain, suitable for note paper. The greeting cards are used wherever greetings are exchanged—Christmas and New Year in the United States, Chanukah in Israel, and the Festival of Divali in India.

Five Eskimos of Baffin Island are among the artists contributing designs to this year's UNICEF greeting cards. Their five designs, called "Arctic Life," depict the world in which they live—igloo, dog team, caribou, arctic gull, and sea pigeon—in charcoal grey, red, and blue on clear white. Other artists represented this year include Pablo Picasso of Spain, Marc Chagall and André

François of France, M. A. Rahman Chughtai of Pakistan, Bedri Rahmi Eyüboğlu of Turkey, and Ludwig Bemelmans and Misch Kohn of the United States. The titles of their contributions are "Haven," "Glad Tidings," "A Child's World," "The Star," "The Journey," "Carol Singers," and "The Herald."

Cards are packaged 10 to a box whether inscribed or plain. The price of most boxes is \$1.25.

The U.S. Committee for UNICEF will gladly send a booklet on this year's selections. Write to the Committee, in care of Greeting Cards, P.O. Box 22, Church Street Station, New York 8, N.Y.

American Education Week

President Kennedy, by proclamation, has designated the week of November 5-11 as American Education Week for 1961. During the 41st annual national salute to education, public schools across the Nation will open their doors to the citizens of their communities, and as many as 30 million adults will visit them, according to the estimates of the four sponsors—the American Legion, the National Congress of Parents and Teachers, the National Education Association, and the U.S. Office of Education.

For information on how your school can make its celebration of American Education Week a real success, write to American Education Week, National Education Association, 1201 16th Street, NW, Washington 6, D.C., or to one of the other sponsors. For use in planning activities, the National Education Association has prepared a packet of 27 items which include 3 Office of Education publications, 1 adult education poster, 7 parent-information leaflets, and promotional material for speakers, writers, and broadcasters. The price of the packet is \$1.50. Obtain from the Association.

Team teaching: A review

OF ALL THE IDEAS to come out of the current reappraisal of the ends and means of the elementary school, one of the fastest to capture both professional and public attention is the idea of team teaching. In the ordinary meaning of language the term suggests merely a kind of cooperation among teachers; but in the meaning it is now being given, it is much more. It is a way of organizing a school, a way of utilizing staff, a way of using space and equipment. It is, in short, a considered and pointed response, from the organizational angle, to the nationwide cry for quality in education.

Because the term "team teaching" has come to mean so much, most of us are not clear on what it does mean; its meaning depends all too much on who is speaking—or listening. Until we can arrive at some degree of consensus on a definition, we can at least consider how the idea grew and why, what claims are being made for it, and how it is working in practice.

Behind it, problems and questions

Nearly every change in the schools, now as always, is in response to the demands of the times. Our times are full of change—social, cultural, technological, economic, and international—and it has driven us to scrutinize the fundamental values of a free and universal public education. We are also in one of those recurring cycles of disenchantment with the structural organization of the school which periodically send us into fresh debate on the virtues of the present pattern—a pattern which for us in the elementary school today is usually influenced by what we call "the self-contained classroom" (a term which can mislead but which means no more than a classroom in

which a number of pupils at the same grade level are taught nearly every subject by the same teacher).

Much of the present querulousness over the self-contained classroom is the result of the growing interest in subject matter—the call for more science, more mathematics, more languages—and the growing worry about the talented student, who many fear will be a heavy loser if his teacher has to spread himself too thin over too many subjects and too much diversity in pupil ability. As the stress on academic achievement has increased, the doubt has grown that one teacher can teach all subjects to all children with equal effectiveness and skill; and from that doubt there is only a step to the conviction that the subject-matter specialist has become necessary in the elementary school and that some way must be found to narrow the spread of capability in the group of pupils with which a teacher works.

The age-old questions about class size also have arisen: How large a group can a teacher handle effectively? does not the optimum number vary with the circumstances? are there not some subjects that can be taught just as effectively to many at a time as to few—and some that cannot?

And at the same time concern has grown over certain circumstances that make the teaching profession less than attractive to many talented and creative persons. Much attention has been spent on finding ways to relieve teachers of the endless clerical nonteaching chores laid upon them in most schools, and on devising an organizational pattern that will make it possible to promote to positions of leadership—and to remunerate financially—those teachers who show extraordinary skill and ability.

No one definition

There are only a few definitions of team teaching available, and none of them say quite the same thing. Taken together, however, they suggest that for some of these questions and problems team teaching may have an answer. In effect they suggest that team teaching can take various forms, but that whatever its variations it is essentially a way of organizing the instructional program which is applicable at either the secondary or the elementary level. Teams may work "vertically" through the school, i.e., at all grade levels in a single subject or



Dr. Dean is the Office of Education specialist for elementary school organization. He has been classroom teacher, principal, and supervisor in the elementary schools, superintendent of schools, and director of laboratory schools. He is the author of

Elementary School Administration and Organization, which reports the most recent national survey in that field by the Office of Education.

closely related subjects; or they may work "horizontally," i.e., at one grade level but in several subjects. For example, all teachers of the language arts may work as a team with all pupils from grades 7 through grade 12. Or all teachers in, say, grades 5 and 6 may work together, each one taking the chief responsibility for classes in his special field and probably doing most of the teaching in it but working always as a member of the team.

Even a small team has a leader, and many large teams have a hierarchy of levels that bestows different titles on its members—titles like "team leader," "master teacher," "senior teacher," "regular teacher," and "intern." Many teams also include nonprofessional people, such as aides and clerks to assist the teachers.

Team teaching as it is being defined today is certainly more than a group of teachers who have amiably agreed to work together. The heart of it seems to be an almost unprecedented kind of unity: members of the team plan together, collaborate constantly, communicate without restraint, and share sincerely and selflessly. Working together they can revise procedures and revamp programs to meet the educational needs of their pupils. In a sense the movement toward team teaching may be considered something of a revolt against the organizational restrictions of the past and a sharp reminder to all and sundry that the purpose of school administration is to serve the educational process, not to control it. One project director says: "We are questioning the status quo."

New, yet old

Is team teaching new? Yes—and no. The term itself is new; it first appeared in *Education Digest* in 1957. And there are inescapable signs of newness in current literature and in practices developing in some schools. History, however, reminds us of other forms of elementary school organization that began with the same goals as team teaching—the Platoon School, the Winnetka Plan, the Pueblo Plan, to mention a few. The Cooperative Group Plan, formulated in the 1930's by J. F. Hasic, who felt the same disquietude about elementary school structure that impels us to experiment today, is probably the most recent prototype; in this plan, small groups of teachers together organized the work for a group of children within a range of not more than three grades, and each group had its own chairman who also served in a supervisory capacity.

It is generally agreed, however, that the first recorded project in team teaching was begun in 1957 at the Franklin School in Lexington, Mass. This is one of the projects sponsored by Harvard University's School and University Program for Research and Development—SUPRAD—a program aimed at bridging the gap between

university research and school practice.

The Franklin School project has been followed by many others in scattered parts of the country. Estimates of the number and substance of these experiments vary, but it seems fairly reasonable to say that they are to be found now in at least 100 communities, in both elementary and secondary schools.

Some of these projects have been much written about, in both professional and popular publications—for example, the projects in Norwalk, Conn.; Flint, Mich.; Baltimore, Md.; Jefferson County, Colo.; Evanston Township, Ill.; Ft. Wayne, Ind.; Newton, Mass.; Montgomery County, Md.; and Palo Alto, Calif. Some are linked with universities, such as Harvard, Chicago, Stanford, and Wisconsin. A great many of these have been encouraged and assisted by the Commission on the Experimental Study of the Utilization of the Staff in the Secondary Schools, appointed by the National Association of Secondary School Principals and supported by the Fund for the Advancement of Education.

How one school does it

The very flexibility that characterizes team teaching makes it hard for any one to draw with firm lines a picture of how, precisely, a team works; it makes it in fact impossible, for no two teams are likely to work in the same way. That they do not is reinforcement for the point of view that team teaching is more of an organizational idea than a set of procedures and practices. It is moreover an idea which a group of teachers must understand and accept—to which they must in fact commit themselves—before they can work as a team; an idea which they must also adapt to their own personalities and abilities and to the personalities and needs of their pupils.

Claremont, Calif., has published a booklet which describes how its team-teaching project operates. But anyone who examines this project as an example should first remind himself that the Claremont way is not necessarily typical. From project to project teams differ both in the number of their constituents and in the way these constituents complement each other. In general, however, the following summary of the Claremont plan may be considered a reasonable review of how a team in an elementary school is organized and how it works.

Pupils. For each team there are about 150 to 200 pupils, drawn from a particular age or grade group. For more flexible grouping of pupils and easier movements from one level to another, the school may be divided into 3 parts: early elementary, middle, and upper. But whatever arrangement the school makes for flexible grouping, the pupils assigned to each teaching team form a distinct group within the school organization.

Faculty. Each team has 5 to 7 classroom teachers with both general and special abilities. The school tries to select teachers who have already specialized, or plan to specialize, in certain subjects in the elementary school curriculum. Some team members also specialize in certain skills, such as giving tests, interpreting results of group testing, and giving remedial instruction. Teams meet regularly to exchange ideas, share information, clarify their purposes, and organize their programs. They decide on the size of each instructional group and how the specialist will handle it.

Team leader. The team leader, who is either elected or appointed, assumes responsibility for the way in which the team works and gives it leadership in improving instruction and guidance. He receives an additional stipend; and from time to time an auxiliary teacher relieves him of teaching, to give him time for his added responsibilities.

Auxiliary teacher. The auxiliary teacher is a substitute teacher assigned specifically to the team. He not only substitutes for teachers when they are absent but also teaches approximately 20 full days a year to give teachers time for planning. His service makes the schedule more flexible; and, since he is a member of the team and attends all meetings, he is able to preserve the continuity of instruction in a teacher's absence.

Teacher aide. The teacher aide does some of the clerical and routine work connected with teaching, such as correcting tests and marking papers, arranging for field trips, supervising study periods, and giving makeup examinations. Sometimes he tutors individual pupils or works with small groups, and does research for teachers on curriculum problems.

Citizens. The team draws on citizens with special skill and knowledge. Scientists, mathematicians, story-tellers, children's librarians, artists, musicians, travellers, and others help the team enrich the curriculum; for example, they instruct small groups and lead discussions, either during school hours or at regular sessions after hours.

Intern teachers. Intern teachers are an integral part of some teams. At the same time that they are being introduced to actual teaching, they are giving support to seasoned teachers.

Buildings to match

The Claremont plan of team teaching—in fact any plan of true team teaching—obviously needs special arrangements in both space and equipment. Several observers already have commented on the limitations and restrictions the traditional type of school facility imposes on a full-scale program. "Conventionally constructed school buildings," a SUPRAD report says, "with their rows of equally sized self-contained cells divided by immovable

partitions do not meet the needs of most effective team operation."

What kind of school will it have to be? One thing, for certain—a school with flexibility built into nearly every cubic inch. A number of actual and proposed plans for elementary schools and junior high schools can be found in *Schools for Team Teaching*, published by the Educational Facilities Laboratory; but the Laboratory does not say that they are final solutions to the problems posed by the team teaching. It calls them experiments, planned for an experiment, but goes on to say that "both the educational idea and the schools planned for it represent new and adventurous thinking, attempts to meet this country's mounting educational challenge." Among the schools it describes are the Estabrook Elementary School in Lexington, Mass., and the Dundee Elementary School in Greenwich, Conn.

Whether schools that fit team teaching cost more to build than the usual kind of school has not yet been determined, but informed estimates say they do. Robert H. Anderson of Harvard University, who directs the Franklin School project, says, "It is hard to predict whether the radically different buildings needed for team teaching will be more expensive. . . . My guess is that they will cost about 10 percent more than 'standard' obsolete buildings, although an ingenious acoustical invention could conceivably reverse the cost picture." Arthur D. Morse, in his *Schools of Tomorrow—Today*, says that team teaching will raise the cost of operating a school, but not because of the building: "Although the new building will feature versatility, it will cost approximately the same as the traditional school. But team teaching with its upgraded salary scales is likely to add 10 or 15 percent to the cost . . ."

Too soon for evaluation

The team-teaching idea has been in practice for so little time in so few communities that conclusive evidence of its effectiveness has not had time to accumulate. After all, the oldest project, in Franklin School, is only 4 years old.

And it is out of Franklin that most of the evaluation has come. Dr. Anderson's subjective summary indicates that team teaching is not "disadvantageous" to children, that its results warrant further experimentation and refinement of proceedings. As far as its effects on pupils go—in growth of personality, in adjustment and achievement—he thinks them "no less satisfactory" than the effects in more traditional setting. He has found no evidence that children suffer emotionally or academically or in any way feel "lost" in the process. The reactions of the teachers have been favorable. Parents of the children, according

to Mr. Morse's report on Franklin School, seem more willing to express satisfaction than "the cautious officials of SUPRAD." Almost all say that their children enjoy their team-taught schooling and benefit from it.

The next logical step, obviously, is to put team teaching to the test. Plans for investigative studies and research projects are already being discussed in a number of quarters, and some proposals have been submitted to the Office of Education for inclusion in its cooperative research program. In due time, no doubt, more objective bases for judging the worth of team teaching will be at hand; but present evaluation is almost entirely in the realm of personal opinion and speculation.

Opinions and speculations, however, despite their shortcomings as a body of evidence, are highly worth reviewing: many of them come from men and women renowned for their sound judgment; many have been formed against a background of long professional experience. That some of them are diametrically opposed should not disturb anyone: this is healthy evidence of the questioning and weighing that must go on until such time as research puts an end to uncertainties.

Claims and questions

Opinions about team teaching are not sharply divided into two camps. Some of the proponents are as ready as the critics to point out practical problems and raise provocative questions; and many of the critics concede that team teaching promises much, at least in theory.

Among the advantages being claimed for team teaching are these:

It is good organization. As a plan of organizing for instruction, it preserves the virtue and avoids the weakness of both the self-contained classroom and its opposite number, departmentalized instruction; it makes it possible to have every subject taught by a specialist, yet it preserves the interrelatedness of subjects and learning. It makes the most strategic use of each teacher's knowledge and skill, accommodates different levels of teacher responsibility and competence.

The pupil profits. The pupil, having the academic advantage of being taught each subject by a teacher strong in it, is more likely to find scholarship attractive, to be challenged to work to capacity. His interests, abilities, and needs are more likely to be discovered when he is taught by two or more teachers working closely together than when he is taught by one teacher working more or less alone; and the flexible grouping and regrouping that characterizes many team-teaching programs provides more realistically for pupil differences than straight "ability" grouping. The quality of instruction that a pupil receives during any one term or school year

does not depend on the competence of a single teacher.

The staff profits. The teacher gets more professional and personal stimulation when he works on a team than when he works in isolation. There is better communication among staff members, more motivation for continuous curriculum improvement, more cooperative planning. Because the team places a premium on unusual ability and skill and on exceptional qualities of leadership, it encourages teachers to grow professionally.

The school profits. There is more opportunity for flexible schedules and efficient use of space, materials, and equipment; in other words, the administration is encouraged to respond to changing needs rather than to be restrictive. Well-qualified teachers are more likely to be attracted to the school. Because the team has room for different levels of teaching ability, it makes it easier for the school to peg teachers' salaries to professional skill and leadership; easier, too, to provide inservice training for inexperienced teachers.

Among the many questions being raised in connection with team teaching are these:

What are we talking about? Does not the present loose application of labels and terms lead to a possibility that the basic concepts of team teaching will be misused and abused? If, before we have precise definition and full understanding of team teaching, we leap aboard the bandwagon, do we not run the risk of missing entirely its idealistic purposes?

Are the assumptions sound? On what basis have we judged inadequate the present methods of school organization and instruction? Can we safely assume that all teachers are qualified by temperament and training to work effectively as members of a team? Is the theory valid that some things can be taught more efficiently to large groups? Are we certain that children learn more from a subject-matter specialist than from a generalist?

How do we surmount the practical difficulties? How can we get enough teachers specially trained in subject matter and team relationships? Enough skilled and gifted team leaders? How will we meet the increased salary and operating costs? How serious are the limitations of our present school buildings for housing this sort of program?

Could team teaching become form without substance? Does not history suggest that our schools have a tendency to become so preoccupied with innovations that they make them the ends rather than the means they were conceived to be? Should not team teaching be evaluated on the basis of its contributions to classroom practice and not judged on the basis of administrative efficiency, popular expediency, or the glamor given by publicity? Is there not an ever-present danger that we will overemphasize organization and, in so doing, distort our sense of the educational values of the elementary school?

Are school revenue sources adequate for the 1960's?

THE ECONOMIC developments of the 1950's were important in financing public elementary and secondary education: as the economy became more productive and income rose, revenue for schools from existing tax sources increased. From 1946 to 1957 the major increase in revenue resulted from changes in the base of taxes and not from higher rates. Nationwide figures for the years 1946 to 1957 show that for State and local governments the base of both the income and the property tax increased 153 percent; the sales tax base increased 100 percent.¹ State income tax rates increased 5 percent and State sales tax rates 67 percent. Property tax rates for all purposes increased 8 percent, and property tax rates for school purposes increased 22 percent.²

Will similar conditions prevail in the 1960's? Will tax bases respond in a similar manner to a rise in income? Will tax rate increases be necessary for public elementary and secondary education? Will tax sources now used be adequate to meet the needs for a growing school-age population?

Although I cannot give precise answers to these questions I hope to throw some light on them by comparing projections of revenue and expenditures for public elementary and secondary education in 1969-70.

Numerous estimates have been made of revenue and expenditures for public elementary and secondary schools in 1969-70.³ Although the dollar amounts of these estimates vary, all show a gap between revenue expected from all tax sources now used and revenue required to maintain schools at their present standards and with a larger school-age population. (Increases in school population and in teachers' salaries are the two major items in higher school costs.) According to the Committee for Economic Development,⁴ the gap for the Nation as a whole between the revenue schools will require and the revenue tax sources now used will provide will be at least 0.3 percent of gross national product by 1969-70. Various other projections of revenues and expenditures show that the

revenue gap could be as large as 1.3 percent of the gross national product: projected revenue requirements for schools range from 3.1 percent to 4.2 percent of the gross national product; projected revenue receipts from taxes now used for schools range from 2.6 percent to 3.0 percent of gross national product.⁵

The differences in the size of the revenue gap result from differences in the method and basis of projecting both expenditures and revenue. But when projections are based on different rates of economic growth, the revenue gap expressed as a percentage of gross national product is relatively more stable than the revenue gap expressed in dollar amounts.

Persons familiar with these estimates generally agree that the 1960's call for sources of revenue to supplement, not to replace, existing revenue sources. The amount of additional revenue that will be required will depend to a large extent on the responsiveness of taxes now used.

The responsiveness or sensitivity of taxes to changing economic conditions, an aspect of taxes often overlooked, is of fundamental importance in examining the revenue potential of taxes because responsiveness indicates what effect the rate of economic growth will have on the revenue the tax will produce at a constant tax rate. Obviously when times are good and the economy is growing, tax receipts increase even though rates may not be raised;

¹ Dick Netzer, "Financial Needs and Resources Over the Next Decade: State and Local Governments." *Public Finances: Needs, Sources and Utilization*. A Conference of the Universities—National Bureau Committee for Economic Research. Princeton, Princeton University Press, 1961. p. 29-30.

² Eugene P. McLoone, *Effects of Tax Elasticities on the Financial Support of Education*. Doctoral dissertation, Urbana, University of Illinois, 1961, 158 p.

³ For various estimates of current school expenditures in 1969-70 adjusted to a common base, see "Costs of Schools in 1970, Some Projections," *School Life*, December 1960.

⁴ Committee for Economic Development. *Paying for Better Public Schools*. New York, the Committee, 1959. 90 p.

⁵ Revenue requirements consider not only funds for current expenditures but also funds for debt service and expenditures for facilities from current revenue. For projections of current expenditures I use the source cited in footnote 3. For debt service and expenditures for facilities from current revenue I use the alternative models of Louis J. Conger, Jr., presented in *An Illustrative Projection of Capital Outlay and Debt Service Requirements for Public School Construction, to 1970*. Washington, D.C., American Statistical Association, December 28, 1959. 8 p.

Dr. McLoone is specialist, economics of school finance, Office of Education. He has for some time been making studies of school revenue. This article is the second in a series he is writing for School Life; the first, "Do Our Extra Dollars Go for Education?" appeared in the December 1960 issue.

when times are bad, they decrease even though rates may not be reduced. Rates of economic change also affect the adjustment in salary levels required to maintain a competitive salary position. Allowance for increased salary payments to teachers and other employees, at least to match the increased productivity of the economy, is necessary to enable schools to hold their own in recruiting staff. If teachers' salaries do not change with productivity increases, either schools do not obtain teachers of the same quality or they maintain the same quality of education at the expense of the teachers, who then must absorb the increased cost.

Data on a State-by-State basis are not sufficient to make a direct comparison of revenue and expenditures similar to the national comparison, but they are sufficient to make an indirect comparison and to evaluate existing revenue sources in terms of specific objectives.⁶ We can estimate future revenue on the basis of the responsiveness of taxes to economic change, and we can estimate expenditures, or future school revenue requirements, on the basis of the number of pupils and the preferences of citizens for educational expenditures with a change in income—that is, the proportion of their increased personal income citizens spend on education in preference to other goods and services. A value for these preferences can be obtained from the income elasticity of education, which measures the past pattern of support with income changes.⁷ The product of this elasticity and pupil change yields the sensitivity required for taxes to insure adequate revenue for education. With these values we can determine whether present taxes will be adequate to maintain schools with a larger pupil population at different preferences or levels. Each

* The essential elements to be considered in making projections are the economy as a whole, i.e., gross national product, national income, and personal income; a measure of the workload, i.e., school-age population, enrollment, average daily attendance; and some measure of the factors affecting cost, i.e., the consumer price index, productivity changes in the economy, and so forth.

None of these is available on a consistent basis State-by-State. The Special Project on Financing Education in the 1960's of the Research Division of the National Education Association is preparing precise estimates of school expenditures on a State-by-State basis for 1965 and 1970.

⁷ For a fuller discussion of the concept of elasticity and the income elasticity of education on a State-by-State basis for selected periods see: Charles Benson, *Economics of Public Education*. Boston, Houghton Mifflin Co., 1961. 580 p.

"Income Elasticity: Public Education," *CEF Report No. 2*. Washington, D.C., Committee on Educational Finance, National Education Association, August 1960. 16 p.

Eugene P. McLoone, "Do Our Extra Dollars Go Into Education?" *School Life* 43: 5-7; No. 4, December 1960.

"Elasticity of Education Expenditures by States," *CEF Report No. 3*. Washington, D.C., Committee on Educational Finance, National Education Association, May 1961. 16 p.

preference illustrated here is based on the assumption that past trends in educational expenditures with changes in income will be continued in the period ahead without tax increases.

In illustrating preferences, we can assume either a desirable condition or the continued support at the preference of some past time. If we assume that all States desire to continue to provide the same per capita resources for education they now provide, a sensitivity of at least 1.0 of taxes used to support schools will be required—that is, a 1-percent rise in revenue needs to accompany a 1-percent rise in income. This places the same requirement on the tax sources of all States, but the actual sensitivity required will vary from State to State with changes in the number of pupils. We can account for the change—an increase in most States—by expressing the number of pupils in some future period (1969-70 for the purposes of this article) as a percentage of the pupils in a base year (1959-60). For example, the 1970 school-age population for the United States is estimated at 54,252,000, or 123.6 percent of the 1960 population 5 to 17 years old.⁸ This pupil index of 1.236 for 1969-70 multiplied by the citizens' preference for education—1.0 to maintain the same per capita resources as in 1959-60—gives us the sensitivity of the taxes required for education in 1969-70. (See table 1 for State-by-State sensitivity figures computed by this method.)

We can also estimate the tax sensitivity needed to support education in 1969-70 at the level of some earlier period. Here we have a choice of periods. I have computed the sensitivity figures in table 1 on the basis of the preferences indicated by the income elasticity for education during two periods: 1929-30 to 1957-58 and 1947-48 to 1957-58. Using the figures for the United States as a whole, we have an income elasticity of 0.99 for the long-term period and 1.34 for the last decade. When we account for the change in pupil population, we find that education will need taxes with a sensitivity of 1.22 (pupil index of 1.236 x 0.99) to maintain the long-term trend and 1.66 (1.236 x 1.34) to maintain the trend of the last decade.

Researchers agree on the sensitivity of the sales and income taxes but not on the sensitivity of the property tax—the major source of school support. On the basis of the experience of the 1930's and 1940's, when the productivity of the property tax was restricted and other tax sources were sought to replace property tax revenue,

⁸ Average daily attendance or enrollment in public elementary and secondary schools would be preferable. However, such estimates are not available on a State-by-State basis. The use of school-age population by State assumes that public school enrollment will increase at the same rate as the school-age population.

Table 1.—Sensitivity of tax sources needed to maintain education in 1969-70 at three different preference levels, expressed as the percentage change needed in the tax base with each 1-percent change in the national product

[The percentage change required to maintain support at each level is computed on the basis of projected school-age population in 1969-70 and the income elasticity for education in each State]

State	At the level of 1959-60, assuming an income elasticity for education of 1.00	At the level of past preferences as indicated by the income elasticity for education in—	
		1929-30 to 1957-58	1947-48 to 1957-58
U.S. average.....	1.24	1.22	1.66
Alabama.....	1.96	1.00	1.42
Arizona.....	1.44	1.29	1.69
Arkansas.....	1.79	1.85	1.15
California.....	1.58	1.28	2.03
Colorado.....	1.35	1.16	1.91
Connecticut.....	1.42	1.49	1.32
Delaware.....	1.47	1.54	1.91
Florida.....	1.52	1.72	1.90
Georgia.....	1.06	1.19	1.64
Idaho.....	1.13	1.93	1.88
Illinois.....	1.29	1.28	1.58
Indiana.....	1.28	1.20	.96
Iowa.....	1.10	.94	1.49
Kansas.....	1.19	1.05	1.54
Kentucky.....	1.94	1.88	1.05
Louisiana.....	1.20	1.46	1.74
Maine.....	1.06	1.14	1.83
Maryland.....	1.40	1.78	1.51
Massachusetts.....	1.21	1.22	1.29
Michigan.....	1.33	1.23	2.09
Minnesota.....	1.23	1.14	1.51
Mississippi.....	1.91	1.89	1.86
Missouri.....	1.13	1.09	1.52
Montana.....	1.22	1.05	1.33
Nebraska.....	1.10	1.02	1.40
Nevada.....	1.62	1.17	1.93
New Hampshire.....	1.21	1.19	1.28
New Jersey.....	1.40	1.33	1.27
New Mexico.....	1.29	1.18	1.42
New York.....	1.25	1.25	1.85
North Carolina.....	1.00	1.15	1.39
North Dakota.....	.99	1.66	(²)
Ohio.....	1.35	1.19	1.37
Oklahoma.....	1.94	1.91	1.13
Oregon.....	1.25	1.37	2.59
Pennsylvania.....	1.13	1.17	1.70
Rhode Island.....	1.18	1.31	1.37
South Carolina.....	1.00	1.06	1.37
South Dakota.....	1.06	1.74	1.11
Tennessee.....	1.00	1.00	1.31
Texas.....	1.24	1.24	1.67
Utah.....	1.27	1.16	2.21
Vermont.....	1.06	1.11	1.45
Virginia.....	1.15	1.29	1.36
Washington.....	1.33	1.28	1.68
West Virginia.....	1.82	1.72	1.92
Wisconsin.....	1.23	1.19	1.75
Wyoming.....	1.22	1.04	2.49

some authorities see the property tax as being insensitive to income changes; others, on the basis of the experience of the 1950's, when it was highly productive, see it as being highly sensitive to income changes. Since available evidence indicates that the conditions of neither period will prevail in the 1960's, neither appears to be a reliable basis for forecasting the revenue of property taxes. I have therefore based my forecasts on a longer period, which shows the general trend of the property tax base in relation to gross national product and also covers the fluctuations in shorter periods, especially the differences between 1930 and 1960.

To illustrate the meaning of the sensitivity of taxes for revenue yield, let us assume that each of several tax sources raised \$1,000 in a given year. Then assume for a later year that personal income increased 10 percent; the income tax will provide \$1,140, a 14-percent increase; the sales tax, \$1,100, a 10-percent increase; and the property tax, \$1,083, an 8.3-percent increase. Thus, for each 1-percent increase in personal income, income tax revenue increases 1.4 percent; sales tax revenue, 1.0 percent; and property tax revenue, 0.83 percent. These percentages are the value of the sensitivity of each tax source.

We can see from this example of the responsiveness of taxes to a growing economy, which parallels the condition we expect in the 1960's, that State revenue, which is mainly from sales and income taxes, will outrun local revenue, which is mainly from property tax revenue.

The calculations in table 2, the projected sensitivity of the revenue structure used for education in 1959-60, are based on the value given above for the sensitivity of each tax. The sensitivity value of each tax varies slightly from State to State. The variations in the property tax result from the differences in the composition of the tax bases; those in the State taxes, from the differences in the kinds of taxes the States use; those in State and local taxes used for schools, from the degree to which States use different taxes to support public elementary and secondary schools.

Table 2 shows that the sensitivity of the revenue sources for education for the United States as a whole is 0.96.

¹ Less than sensitivity of tax sources in table 2.

² Data for North Dakota reflects almost no relation between income changes and current expenditures per pupil in average daily attendance because per-pupil expense continued to increase while personal income fluctuated widely.

Sources:

Computed from: Financing Education in the 1960's, Special Project on School Finance. Table 7. Washington, D.C., Research Division, National Education Association, June 1961.

"Elasticity of Educational Expenditures by States," CEF Report No. 3. Washington, D.C., Committee on Educational Finance, National Education Association, May 1961.

Table 2.—Projected sensitivity of tax sources to changes in gross national product, by State, for the 1960's

State	Percent change in tax base with 1.00 percent change in gross national product		
	Property tax base	State taxes	State and local taxes used for education
U.S. average.....	0.83	1.12	0.96
Alabama.....	.84	1.08	1.03
Arizona.....	.92	1.06	.98
Arkansas.....	.82	1.03	.94
California.....	.84	1.11	.96
Colorado.....	.82	1.17	.92
Connecticut.....	.88	1.12	.94
Delaware.....	.75	1.26	1.21
Florida.....	.88	1.01	.96
Georgia.....	.90	1.03	1.00
Idaho.....	.75	1.24	.95
Illinois.....	.85	1.05	.92
Indiana.....	.90	1.00	.93
Iowa.....	.72	1.13	.78
Kansas.....	.84	1.09	.90
Kentucky.....	.77	1.19	1.04
Louisiana.....	.87	1.07	1.02
Maine.....	.79	1.07	.91
Maryland.....	.81	1.20	1.03
Massachusetts.....	.82	1.21	.95
Michigan.....	.89	1.02	.95
Minnesota.....	.79	1.21	.97
Mississippi.....	.86	1.04	.99
Missouri.....	.80	1.10	.94
Montana.....	.87	1.14	.96
Nebraska.....	.79	1.00	.82
Nevada.....	.87	1.12	1.03
New Hampshire.....	.76	1.20	.85
New Jersey.....	.83	1.11	.91
New Mexico.....	.83	1.04	1.01
New York.....	.78	1.27	1.00
North Carolina.....	.87	1.18	1.12
North Dakota.....	.76	1.04	.88
Ohio.....	.87	1.03	.93
Oklahoma.....	.83	1.08	.98
Oregon.....	.82	1.33	.98
Pennsylvania.....	.76	1.06	.94
Rhode Island.....	.93	1.12	.98
South Carolina.....	.96	1.07	1.04
South Dakota.....	.78	1.04	.84
Tennessee.....	.74	1.04	.95
Texas.....	.88	1.08	.98
Utah.....	.86	1.13	.98
Vermont.....	.75	1.15	.89
Virginia.....	.83	1.27	1.04
Washington.....	.84	1.03	.98
West Virginia.....	.92	1.05	1.00
Wisconsin.....	.75	1.25	.89
Wyoming.....	.89	1.02	.95

Sources:

Weighted average of elasticities for components of property tax base from 1900-1955 by proportionate share of each component in assessed property tax base: Eugene P. McLoone, *Effects of*

If we compare this figure with the figure in table 1 for the sensitivity required for the taxes to maintain adequate revenue we find support for our initial statement: In 1969-70 there will be a gap between revenue and expenditure for the Nation as a whole from existing taxes even with the increased revenue expected from economic growth. This same method of comparison can be used for each of the States.

Thirteen States have a sensitivity of 1.0 or greater for State and local taxes used for schools. If these States have no increase in pupils, the present taxes will provide the revenue needed to maintain per capita resources for education without increases in tax rate. However, since a number of these States will have an increase in the number of pupils, only nine States can maintain their past long-term preference with an increased pupil population. Six of these States—Alabama, Arkansas, Kentucky, Mississippi, Oklahoma, and West Virginia—will lose school-age population. The three other States where present tax sources are adequate to maintain past performance rank among the lowest in the income elasticity for education.

THE MEANING of these imprecise findings for tax policy will, of course, depend upon one's general philosophy about levels of government support of education and appropriate government levels for the increased support needed. Although some gains may be achieved through productivity increases, the total needs apparently cannot be achieved in this manner, since productivity gains are difficult not only for education but also for all services. Estimates of future needs indicate that States should examine and select additional revenue sources. In the past, preferences for education were achieved by changes in tax rates, tax bases, and tax sources in response to underlying economic conditions. In the future, these preferences will have to be made in the same manner. The essential questions are (1) what tax rates should be increased? and (2) by how much? Local taxes are mainly property taxes; State taxes, mainly sales taxes; and Federal taxes, mainly income tax. Providing adequate revenue for schools in the 1960's will require citizens and their elected representatives to make decisions on tax sources.

Elasticities on the Financial Support of Education. Doctor's dissertation. Urbana, University of Illinois, 1961. 158 p.

Weighted average of long-term elasticity of each tax by its proportionate share of total State revenue: U.S. Department of Commerce, Bureau of the Census. *Detail of State Tax Collections in 1960*. Washington, D.C., the Bureau, Nov. 8, 1960. 30 p.

Weighted average of elasticity for taxes used for schools based on distribution of tax sources for schools: Albert R. Munse, *Revenue Programs for the Public Schools in the United States, 1959-60*. Office of Education OE-22013. Washington, D.C., U.S. Government Printing Office, 1961, p. 7.

How prepare the counselor for his job?

In recent years changes in the Nation's social, economic, and industrial life have led to rapid growth in the profession of counseling and the jobs its members are called on to do. Not many years ago we expected a counselor to be a vocational or occupational specialist; today we expect him to be much more. We expect him to function in many areas of student personnel work and to be competent in tests and measurements and many other fields.

Leaders in counselor education recognize that the new demands on counselors call for changes in preparation. They are therefore redefining terms, reexamining curriculums, and searching for better practices. Here Dr. Miller briefly reviews developments in the past decade and current developments which he believes are of basic importance in the preparation of counselors.

IN THE LATE 1940's and early 1950's counselors, individually and in professional associations, were thinking vigorously but along somewhat divergent lines about the preparation of counselors. Several reports issued during the period reflect their differences:

A series of reports prepared by the Eighth National Conference of State Supervisors and Counselor Trainers described the competencies a counselor needs in carrying out his responsibilities, especially his educational-vocational responsibilities.

Counselor Preparation,¹ a report prepared at the invitation of the National Vocational Guid-

ance Association by a committee made up of representatives of eight national organizations under the chairmanship of Leonard M. Miller, made broad recommendations on seven areas of training. It defined objectives of the areas against major responsibilities of counselors. In a supplement to this report, the committee called attention to additional training it regarded as essential in preparing a counselor to assist students with their educational and vocational problems.

Training of Psychological Counselors,² a report of the conference sponsored jointly by the Division of Counseling and Guidance of the American Psychological Association and the University of Michigan and held at Ann Arbor, July 27-28, 1949, and January 5-6, 1950, dealt with such matters as these: Developing a basic concept of psychological counseling; distinguishing between counseling and psychotherapy and between the work of the counseling psychologist and the clinical psychologist; and defining the basic content of psychological training.

These conference reports by no means presented a complete picture of developments in counselor education during the past decade. They did, however, stimulate interest and prepare the way for some of the current developments, four of which are particularly important to the future of counseling.

1. There is new emphasis on a solid foundation in social and behavioral sciences.

This emphasis was clearly apparent in the conference on issues in counselor education called by the U.S. Office of Education in Chicago, August 29-31, 1960. It results from no new and sudden insight—the importance of such basic content has long been recognized. What is new



Dr. Miller, specialist in preparation of personnel workers, has been high school teacher and principal, college teacher and counselor. He came to the Office of Education from Colorado State University, where he was first associate professor and counselor trainer and later professor and head of the department of psychology and education. At the university he conducted inservice training in guidance in many Colorado schools and assisted in developing and supervising a faculty advisory system for students in their major fields.

¹ National Vocational Guidance Association, *Counselor Preparation*. New York, 1949.

² Institute for Human Adjustment, *Training of Psychological Counselors*. Ann Arbor, University of Michigan Press [1950]. 29 pp.

is the sharper focus on the basic social and behavioral sciences.

Closely akin to the stress on foundation is the stress on the need to balance theories and principles with skills and techniques. No one, of course, suggests that the two are separable, but some programs do emphasize one more than the other. Strowig³ identifies three kinds of experiences as a basis for a rationale in counselor education: (a) Experiences with people (psycho-socio-cultural), (b) experiences with tools and procedures (things and events), and (c) experiences with abstractions (people and ideas). Participants in the Office conference in Chicago devoted considerable attention to experience with ideas; they did not disparage tools and techniques—merely recognized them as no longer sufficient. Competencies, they said, must be developed upon a foundation of basic theory and research in relevant disciplines.

2. More and more educators are recognizing that the basic content of counselor education should become increasingly interdisciplinary.

In recent years much of the discussion of interdisciplinary content has been lacking in substance. One difficulty is the ambiguity in titles of college courses. This ambiguity is reflected in a recent study by a committee, under the chairmanship of Kenneth B. Hoyt,⁴ of the role of psychology in the preparation of counselors. Apparently respondents to this study used various definitions of the term "psychological content," which made it difficult for the committee to judge the psychological content of courses identified as education. Although the responding institutions showed wide variations in the proportion of programs they considered as psychology, the committee was unable to determine "whether this variability represents actual differences . . . or . . . differences in judgments of the counselor trainers whose responses were included in the analyses." Unfortunately no comparable studies have been reported on the proportion of counselor education programs drawn from sociology, cultural anthropology, or other disciplines.

3. Practicum and internship experience is becoming a minimum essential.

Such supervised experience has been advocated for

many years and some institutions have provided for it; for example, the University of Minnesota has included field experience since 1935.⁵ Only recently, however, has the value of supervised experience in the education of counselors been generally recognized.

Counselor educators have generally accepted practicums and internships as essential parts of counselor education. MacMinn and Ross⁶ in their 1959 study found that 59 percent of the institutions reporting programs for secondary school counselors and 60 percent of those reporting programs for elementary school counselors required "practicum and internship and/or supervised practice." (This category included such course titles as "internship," "practicum in counseling," "laboratory in counseling," and "clinical practices.") There is reason to believe, however, that the percentages of colleges requiring some form of supervised practice are considerably higher. In a survey reported by Santavica,⁷ for example, 83.6 percent of the 170 institutions that responded provided some form of supervised experience:

	Percent
Supervised practice only-----	53.0
Internship only-----	0.6
Supervised practice and internship-----	30.0

Practicums and internships seem to offer an opportunity for a fusion of the triad of experiences Strowig suggests—experiences with people, with ideas, and with tools and procedures. The practical nature of supervised experiences seems to lead to emphasis on the first two of these, but the major contribution of practicums and internships may be in the integration of theory and practice; certainly techniques are not things apart from experiences with people and with ideas.

Since practicum and internship instruction requires a higher ratio of faculty to students than ordinary classroom instruction and is therefore more expensive, many institutions were not able to offer it until recently. Since 1958 the financial assistance provided through the counseling and guidance institutes established under the National Defense Education Act has made possible, to a degree never before achieved, the development of practicums as a method of counselor preparation.

State certification requirements do not yet reflect general acceptance of practicums and internships as a min-

³R. Wray Strowig. *A Rationale for Inquiry into the Preparation of Guidance Counselors*, a paper presented at a symposium, "Counselor Preparation for Effective Guidance Service," at the meeting of the Guidance Division, American Vocational Association, Chicago, Ill., December 1959, Mimeo. 19 pp.

⁴Kenneth B. Hoyt, Reed M. Merrill, and Herman J. Peters. *The Role of Psychology in the Preparation of School Counselors*. A report of a committee of Division 17 of the American Psychological Association. 1959. Mimeo. 50 pp.

⁵University of Minnesota Counselor Education Staff, Supervised Field Practice in Student Personnel Work. *Personnel and Guidance Journal*, vol. 39, No. 4, December 1960.

⁶Paul MacMinn and Roland G. Ross. *Status of Preparation Programs for Guidance and Student Personnel Workers*. U.S. Office of Education Bulletin 1959, No. 7. 49 pp.

⁷G. Gene Santavica. Supervised Experience and Selection of Counselor Trainees. *Personnel and Guidance Journal*, vol. 38, No. 3, November 1959.

imum essential in the preparation of counselors. Only 8 of the 34 States that had mandatory certification requirements as of 1959^{*} included practicums and internships. Typically an applicant for certification has some choice of the specific credits he may offer to satisfy requirements in general areas. By this arrangement, credit in practicum or internship often becomes, in effect, optional. But here, as in any generalization, there are semantic difficulties: Courses offered under such titles as "counseling" and "counseling techniques" may include some practicum or at least some laboratory experience. It is clear, however, that certification requirements do not usually specify practicum or internship experience.

4. There is a growing realization that school counselors must be prepared for positions which do in fact exist.

It is probably inevitable that the educator who prepares the counselor and the school administrator who employs him will have different images of the counselor at work. The problems such differences create should be solved jointly by school administrators and educators: The educator should maintain the closest possible contact with both the existing and the developing guidance needs of the schools so that counselors may be realistically prepared; the administrator should provide for the fullest utilization of the competencies and knowledge of

counselors so that pupils may receive maximum services.

Since we are concerned here with the education of counselors, not with the administration of guidance services, we need consider only the questions of preparation. Two kinds of questions are pertinent: Those concerned with what is and those concerned with what should be. Neither taken alone can lead us to the answers we need for a thorough grounding of counselor education. First, however, we should recognize the overwhelming variety of counselor functions. If it were possible to list all the functions counselors perform in all schools and if institutions tried to prepare counselors to perform all these functions, counselor preparation would be thrown into hopeless confusion. Moreover education based only on *what is* could scarcely be other than static.

Our guiding principles must come from questions which ask both what is and what should be. On the latter we should ask such questions as these: How should the functions of counselors be distinguished from those of other personnel workers? What should be the role of professional associations in defining counselors' functions? In view of the wide variation of functions in different jobs, how generalized or how specialized should counselor education be?

It is important that all of us searching for answers should maintain a judicious balance in emphasis on what is and what should be. After all, in moving toward a goal, we must start from some base, and it is the line from the base to the goal that establishes our direction.

^{*} Royce E. Brewster. *Guidance Workers: Certification Requirements*. U.S. Office of Education Bulletin 1960, No. 14. 98 pp.

Technical education: A challenge to American educators

OUR LAG in providing technician training programs in secondary and post-secondary schools has been one of the major causes of the shortages of technical manpower and has aggravated the unemployment problem.

We have the problem of training and retraining 5.6 million unemployed workers, 39 percent of them under 22 years of age. About half of those under 20 have never held a full-time job; most of them are untrained and have no salable skill. In addition, more and more workers are being displaced because of rapid technological change and increased automation: the steel industry uses 95,000 fewer workers than before the Second World War but produces more steel; telephone companies have 5 percent fewer employees than in 1955 but 25 percent more business.

At the same time we are facing heavy demands for technical knowledge and skill. There is scarcely a major field of work that does not continuously demand scientists,

engineers, technicians, and skilled craftsmen. The Federal Aviation Agency alone will need more than 2,500 electronic technicians each year for the next 5 years. The Bureau of Employment Security report for June 1961 shows a total of 192,068 job openings for which the U.S. Employment Service could not find the workers. Employment service offices from New York to Los Angeles report a continuing demand for secretaries, stenographers, and typists, and employers report shortages of engineers, social workers, teachers, nurses, draftsmen, technicians, machinists, and instructors for deaf children.

A U.S. Department of Labor list of job openings that could not be filled in the areas where jobs were located showed openings for 9,916 persons in professional and managerial operations, 3,045 skilled tradesmen, and 1,713 sales and clerical workers. Cost accountants were needed in Los Angeles-Long Beach; sheet metal workers in New York, Philadelphia, and Portland, Maine; welders in Kan-

sas City and Baltimore. Engineers, chemists, physicists, mathematicians, toolmakers, machine shop workers, auto mechanics, and television repairmen—all were on the shortage list.

Other reports show critical shortages of mechanical design draftsmen, electronics technicians, tool and die designers, tool planners, production planners, and a variety of engineering and physical science technicians. All require technical education.

An estimated 600,000 engineering and industrial technicians were employed in January 1959; an estimated 1,400,000 will be employed by 1975. This means a total addition of 800,000 or 55,000 annually. To fill the new jobs and to make up the losses from retirement, death, and other causes, we should be graduating at least 100,000 technicians each year from preparatory programs; we are graduating only about 16,000.

Harry Bigelow, the employment manager of the Argonne National Laboratories, estimates that for the present our annual goal should be to train 120,000 technicians in science and engineering and another 120,000 in medical, health, and other occupations employing technicians, or about 250,000 a year. Our present ratio of technicians to engineers is about 0.75 to 1, but some production industries could use as many as 10 technicians to 1 well-qualified engineer.

Under title VIII of the National Defense Education Act, which authorizes Federal funds for area vocational education, technician enrollments have increased from about 50,000 in 1959 to more than 100,000 in 1960, and to an estimated 150,000 in 1961. At least two-thirds of the students in 1960 were in extension programs; one-third, in preparatory programs. About 25,500 of the preparatory students were in post-high-school programs (9,000 in junior and community colleges, the rest in different types of trade and technical schools), and some 7,000 were in high schools.

But even after we add the graduates from title VIII programs to the graduates from the 35 technical institutes accredited by the Engineers' Council for Professional Development and from all other trade and technical schools in the United States, we still have fewer than 50,000 a year. Clearly we need to establish enough programs to meet the backlog and the increasing demands for industry, business, and research.

What can educators do to meet this challenge? First we must pool the best professional resources in each State to come quickly to a basic understanding of the elements of technical education essential to quality. Then the administrator can interpret technical education problems, needs, and programs to his board members and the public and can move rapidly toward establishing programs of high

standard. Leaders in vocational technical education can get on with planning, organizing, operating, and evaluating programs. Counselors can begin to give students a clear picture of technician job requirements and opportunities for technical education and employment. Industrial arts leaders and teachers can begin to revise and administer curriculums that will permit students to explore the whole technical world of work. The teacher educator, up to date in technical education principles and practices, will have an important part in the future of technical education.

Area programs provide a wide variety of trade and technical training opportunities for young people in and out of school and for adults. Under the stimulus of title VIII a great variety of extension classes in technical subjects have been developed; vocational educators have planned longer curriculums for unemployed adults and many short specialized courses for employed technical workers; talented instructors have been recruited from industry, business, and research to teach extension classes; and many States have expanded their area programs or established new ones—almost every State is providing larger area training units than formerly.

But much more needs to be done to attain the goal of 250,000 graduates a year. As progressive vocational educators have found, preparatory technician programs are the most difficult to establish and operate on a high standard. If bona fide programs are to have high quality, they must have—

Able students whose scholastic achievement is average or higher.

Competent professional instructors.

A well-designed curriculum that requires the student to devote more than half of his school time to the specialized and auxiliary subjects of a certain technology.

Well-equipped laboratories.

Anyone who graduates from a program meeting all these requirements will be prepared to fill any one of a number of jobs within a special technical field. He will be trained to work on and solve problems that are not now apparent, in jobs that have not yet appeared in the labor market. Any program having less than this kind of quality, rigor, and depth will not meet the ever-increasing demand for highly skilled technicians.

Our path is clear—to pool the educational and training resources of American educators to provide technical training of high quality in area schools of all kinds.

From a speech by Walter M. Arnold at the Third Annual State Conference on Technical Education, Miami, Fla., April 21, 1961. Dr. Arnold is acting director, Division of Vocational Education.

ALBERT PILTZ
Office of Education specialist for science
Science, Mathematics, and Foreign Language Section

New Vigor in the Teaching of Science A Result of the National Defense Education Act

THE phenomenal growth of science and technology in the past decade has motivated a close scrutiny of the methods of teaching science. To be effective, science programs must be based on experimentation requiring a variety of equipment and materials. The Congress has

recognized the need for improving science teaching and made funds available for this equipment under title III of the National Defense Education Act. This collection of photographs shows how some schools have invested their NDEA funds.

Experiments—the foundation of science

Experimentation helps the student understand important scientific principles and methods and at the same time helps him learn basic research techniques. If he has the proper tools with which to carry out his experiments, he is able to work out for himself scientific problems in a scientific manner.



By having the instruments before them, these students are able to clearly understand the principles and techniques involved in weather forecasting. This equipment also permits them to perform special experiments on evaporation, wind velocity, and air pressure.



■ These students have just etherized a generation of fruitflies and are in the process of learning for themselves that the Law of Segregation requires a 3:1 ratio of dominant and recessive hereditary traits.

■ The seventh grade girls below are using an aquarium and a tuning fork to see whether goldfish can be trained to respond to sound and also whether they can distinguish between middle C (256 freq.) and the C an octave higher (512 freq.).



All kinds of equipment for all kinds of science courses

Thousands of students in science courses, from general science to physics, and at all grade levels, from elementary to college preparatory, are benefiting from the provisions of the National Defense Education Act.



This model of a human torso has removable parts. Students who use it in their biology class get a better understanding of human anatomy.



A general science class learns about the low kindling temperature of phosphorous during the unit on chemistry.



These students are determining the mechanical advantage of the inclined plane and learning about ratios of resistance to force, a typical problem in mechanics.



Both technical apparatus ... and simple materials

A total science program requires equipment. NDEA offers matching and the advanced types of apparatus of a specific program.





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depending on the needs



■ A microtome (above left) helps the biology student prepare slides.

■ A refractometer (above right) enables the physics student to measure refraction of light.

■ The study of geotropism requires little equipment, but some is needed now and then to enable the student to apply principles of scientific research. This student (left) has grown bean plants in test tubes tilted at different angles and is measuring the direction of growth and noting the condition of the roots.

■ Centrifuges (below) permit chemistry students to separate materials of different densities.



Visual aids

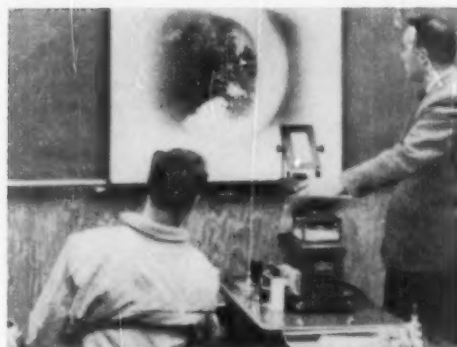
Visual aids are valuable tools in science instruction.



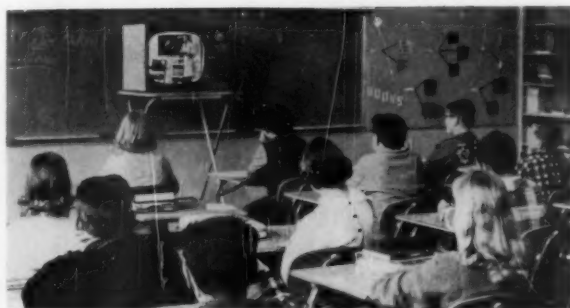
Difficult concepts or unusual phenomena are often easily explained with the use of motion picture and filmstrip projectors.



These students are using a microprojector to examine a paramecium slide. The machine is adaptable to study by either small or large groups since it can project a specimen on either a horizontal surface or on a screen for class discussion.



By the use of layers of transparencies the overhead projector enables the teacher to illustrate various stages in a scientific process or dramatically show changes which occur in a life sequence.



An increasing number of schools are using television to supplement their science programs. This TV set was purchased with NDEA funds.

Other aids

In addition to equipment, NDEA offers services to schools to insure the effective use of the equipment.



■ This mobile science laboratory with stations for 12 pupils is set up on the school yard for a 3-day session three times during the year. The State supervisor of science, the director of the laboratory, helps local teachers acquire efficiency in using new equipment, in introducing new materials, and in developing a sense of creativity in pupils. Title III authorizes funds to help States finance both the laboratory and the services.



■ Well supplied with reference books, these students (above left) can not only verify the results of their experiments, but also follow their interests far beyond their ability to experiment. They can use references to supplement their textbooks and find new interests and new material.

■ Adequate and accessible storage space for equipment and materials is an important part of a good science program. It saves time and cuts down traffic, confusion, and accidents. This storage cabinet was built with funds from an NDEA provision for minor remodeling.



■ This room has been remodeled to provide enough space to permit each student in the science class to work, individually or in groups, without being disturbed. The reduction of time-consuming line-up of students waiting to use laboratory equipment is another accomplishment of NDEA. NDEA also provides the reference books, charts, microscopes, model torso, flasks, and microprojector. Here each student who is working on an individual project has his own microscope.

Why property accounting

On June 22-23 the Office of Education sponsored in Washington a conference of representatives from nine States that have Statewide systems of property accounting. The purpose of the Office, which now is preparing a State guide to accompany its handbook on property accounting, was to learn of the participants' various experiences with these systems and to hear their opinions and suggestions. Here Dr. Roberts summarizes the recommendations of the conference against a background of the benefits that can accrue to education from universal use of a standard system of school property accounting.

IN A TOWN I will call Johnston, a new school board member came to his first board meeting last spring to accuse his fellows of having squandered money when they built the new school for \$14 a square foot. But the only evidence he could muster to support his accusation was the fact that Fairfield, a neighboring town, had built "a good school" for only \$9 a square foot.

The same comparison had been put to the superintendent of schools the fall before, when a group of citizens met with the board for a budget hearing. The superintendent tried to offer some explanations for the difference between \$14 and \$9: The Johnston school was built of hard materials that would last longer and cost less to maintain; it had more educational space; it had a more desirable and a more costly site; although at present it had regular classrooms for only 1,000 students, it had a maximum capacity for 1,500 whereas Fairfield's school had a maximum of only 1,200.

At that meeting one citizen, a public accountant, asked

the superintendent if he had data to substantiate his statements about maintenance and operation cost, about the relative costs of materials, about the space needed for an educational activity, and about cost and performance ratings of different kinds of heating and lighting equipment. The superintendent had to admit that planning for the Johnston school had been based on empirical data only, that no systematic method had been used to gather and compare information on school facilities.

This kind of fruitless effort to compare school with school has been made in many communities in the past few years, when a great deal of public attention has been drawn to wide differences in the costs of school buildings. And school administrators have been at a loss to find objective data that might justify the differences. An assistant superintendent in a metropolitan center recently wrote to the planning director of his State department of education pleading for a formula on which to evaluate school buildings. His local paper had learned that a neighboring community had built a model country-club style senior high school for only \$14 per square foot, and the editor was trying to find out why the local board was building only conventional schools for as much or more. But the State offices lacked information about sites, buildings, and equipment and could produce no formula.

Not long ago school-plant-planning officials from 15 Southern States spent two annual sessions at George Peabody College in Nashville, trying to arrive at some principles to guide professional and lay people in judging what they get for the money they spend on school buildings. They were looking for answers to questions like these: What is the amortized cost, per square foot, of terrazzo and hardwood flooring? of interior wall finishing? and what is the total amortized housing cost per child per school year? But they could not obtain the data they needed for calculating the answers, not even from the State offices.

Lack of these data makes things difficult for schools and their administrators in more ways than one. Many State legislatures do not appropriate funds for school construction simply because there are no data to show the needs of the districts. Many bond issues fail because school officials cannot convince the community of the need for the building nor explain the cost. And every time the Congress of the United States, in its efforts to ascertain



Dr. Roberts joined the staff of the Office of Education in May 1961 as a program specialist on records and reports, to give consultive services to the States on using Property Accounting for State and Local School Systems,

one of the handbooks in an Office series. He was formerly director of school planning in the Texas Education Agency and a teacher and administrator in Texas schools.

the financial needs of the States, provides a national forum for public expression, many persons and organizations come forward to make disparaging statements about the local schools—statements which impugn the ability and integrity of local school administrators.

But there are standards that school men could use in comparing school buildings and determining costs and shortages of space. Handbook III in an Office of Education accounting series, *Property Accounting for Local and State School Systems*, classifies and defines the specific items of information about land, buildings, and equipment that need to be comparable among local school systems and among States. More than 200 school officials developed this handbook over a period of 3 years, and more than 150,000 school officials throughout the country approved it in 1958. Yet the property accounts as defined and classified in the handbook are being used completely by only two State and three local school systems.

Why aren't the standards defined in this handbook used more extensively? No doubt reasons vary from State to State, but the one State officials mention most often is the lack of staff in State offices and their own awareness that, even if State projects could be begun, local systems would not have the staff to follow through.

Reports from States participating in the National Defense Education Act under Title X, which provides funds for the improvement of records of local, State, and national school systems, show that several States (Florida, Kentucky, Nevada, North Carolina, Oregon, and Texas) are planning various ways of using Handbook III. Several other States are planning to use these accounts in the near future.

In June 1961 an Office of Education conference on property accounting made many suggestions that may be helpful to officials in these States and to others who are planning to adopt the Handbook system of property accounting. Later in the year the Office will publish a guide to Handbook III based on the suggestions, methods, and techniques developed in the conference. In the meantime some officials may find a summary of the suggestions helpful. They should, however, be considered merely as a guide, not as an all-inclusive or even a minimum plan.

The State guide

A State agency planning to use Handbook III might find these steps helpful in getting its project started: (1) Make a formal decision to use the handbook; (2) develop a plan of organization; (3) develop a program of operating activities; and (4) develop an evaluative program.

In stating its formal decision, the agency should cover long-range objectives, officials responsible, organization,

operational activities, and evaluative procedures. The long-range objective might be to assist local school officials in making an inventory of property; to draw up procedures and reporting forms for local use, including a summary form for reporting property data to the State; and to help local and State officials use the information gathered to improve the planning, administration, and operation of school facilities.

Any project requires responsible employees and clear-cut policies—policies that give the necessary authorization to employees and establish their responsibilities. State policies would include a plan of organization and indicate the school staff members needed to encourage local participation in the project.

Although plans of organization for using the Handbook would vary from State agency to State agency, in general each plan would provide for a State advisory committee, one person in the State agency to be responsible for the project, a field staff to assist local officials, and a staff to work with officials of nonpublic schools and organizations.

The State advisory committee, which would function under the guidance of the State agency, might be composed of representatives of school administrators, business officials, board members, professors of school administration, elementary and secondary principals, and public accountants and representatives of automatic data-processing companies. It would counsel the State agency in developing Handbook procedures, keep the organizations represented informed, and stimulate interest in the project.

There are several advantages in making one staff member of the State agency responsible for the Handbook project: it centralizes responsibility, gives the person in charge a sense of urgency, and gives the project status in the agency. An agency committee formally organized to give advice and support to the staff member might be advisable as it could keep the agency staff informed on the status of the project and pass on important suggestions from staff members other than the committeemen.

The size of the staff committee will vary according to the seriousness of the problem in the State and the emphasis placed on the project, but whatever its size, it will be advisable to provide a staff to assist committee members working in the field with local school officials. It may be difficult to get men to take the inventory, especially in the smaller districts, and once they have been employed they will need training in the techniques of the job. In some instances State staff members may have to take part of the inventory for local officials or work with them. Title X funds may be used for State staff members working on this project.

The Public Schools—New Biennial Data

For the first time in nearly 20 years biennial figures on the public elementary and secondary schools show a decrease in capital outlay. In 1959-60, according to preliminary figures, 24 States, despite a continuing need for classrooms, spent less than in 1957-58 on new grounds, buildings, and equipment. As a result the national total fell nearly \$198 million. The last time a biennial survey showed a decrease was during World War II, in 1943-44, when capital outlay for the public schools dropped to less than \$54 million.

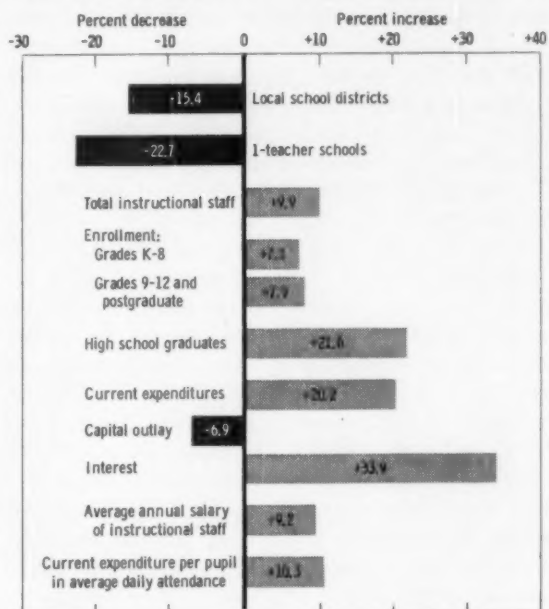
In other respects, however, the 1959-60 figures show progress over the previous biennium—fewer school districts, fewer 1-room schools, larger enrollments, more high school graduates, more instructional staff, higher salaries. Current expenditures and interest payments rose too.

In the following comparison of public elementary and secondary schools in 1959-60 and 1957-58, both years include the 50 States and the District of Columbia. The figures for capital outlay do not include amounts spent by schoolhousing authorities and nonschool agencies (\$242 million in 1957-58 and \$194 million in 1959-60).

	1957-58	1959-60
Local school districts.....	47,623	40,286
1-teacher schools.....	26,227	20,263
Instructional staff.....	1,339,893	1,472,974
Enrollment:		
Grades K-8.....	25,800,246	27,629,881
Grades 9-12 and postgraduate.....	7,894,520	8,516,965
High-school graduates.....	1,338,465	1,627,060
Current expenditures.....	\$10,424,145,000	\$12,524,797,000
Capital outlay.....	\$2,857,065,000	\$2,659,484,000
Interest.....	\$342,981,000	\$459,238,000
Average annual salary of instructional staff.....	\$4,703	\$5,135
Current expenditure per pupil in ADA.....	\$341	\$376

The changes from 1957-58 to 1959-60 are expressed as percentages in the chart opposite. In every instance but one the percentage of change differs from that in the preceding 2-year period. From 1955-56 to 1957-58 the number of districts and

Public elementary and secondary school systems: Some changes from 1957-58 to 1959-60*



*Based on preliminary data for 50 States and the District of Columbia.

the number of 1-teacher schools were reduced 13.1 percent and 25.0 percent, respectively. The total instructional staff increased at the same rate—9.9 percent. Enrollments up through grade 8 increased 6.1 percent; enrollments in the higher grades, 14.8 percent; the number of high school graduates, only 6.4 percent. Salaries rose 13.2 percent; current expenditures per pupil, 16.0 percent.

For further information write to the Office of Education, Washington 25, D.C., for Preliminary Statistics of State School Systems, Circular No. 663, OE-20006-50.—Emery M. Foster, chief, Research Studies and Surveys Section.

Many officials of nonpublic school organizations have shown an interest in property accounting by their requests for information and for Handbook III. It would be appropriate to ask officials of such organizations to cooperate in this project and provide a staff to work with them.

The success of a project that depends on several people is generally in direct proportion to the effort put into motivating the participants and orienting them in its values.

Obviously, then, these activities should be stressed: Holding State meetings of officials from selected school systems and regional meetings of representatives from all school systems, conducting spot programs at statewide meetings of educational organizations, and conducting an executive program supported by regulation and legislation.

As the first step in initiating the project the State agency might invite local school officials who have already used the handbook to a meeting to discuss the purposes and

operation of the project. At this meeting the agency might identify the officials who have used the handbook successfully and invite them to serve as consultants at regional conferences.

Regional conferences would stress the purpose of the project and its usefulness to local officials in planning, administering, and maintaining school facilities and would give instruction on taking inventory. State leaders might find it advantageous to schedule another regional conference in the same place at a future date at which local officials could review their progress, exchange ideas on techniques, and get assistance on special problems.

Agency leaders can usually get spots on the programs at annual meetings of educational organizations—associations of school officials, superintendents, business officials, board members, principals, and secretaries—to discuss the project, its purpose and usefulness, and the importance of organization support, collective and individual.

Incentive programs could include administrative and legislative features. State administrative regulations could authorize the agency to allocate funds to be used only for this project or to contract with local districts to take inventories on a sharing or matching basis, using Title X funds (sec. 1009). The State legislature could provide incentives through the minimum foundation program, general assistance allocations, and statutes—for example, the legislature might enact statutes requiring school districts to prepare records of land and buildings for annual audit.

Just as important to the success of the project as motivating activities are the operating activities—the methods and procedures used. State agencies might plan these activities:

1. *Preparing a manual containing suggestions to local officials for submitting samples of forms and descriptions of procedures.*—The agency might suggest a list of procedures applicable to the local district, the use of staff, and samples of form outlines for a district inventory of property established on accounting principles.

2. *Providing for a two-way flow of information on the project status.*—The agency could send out information through bulletins, feature articles in State organization periodicals, announcements in publications of State agencies, special reports, and reports by advisory committee members. The agency might get information from the field through individual contacts, correspondence with local officials, and questionnaire surveys of local districts.

3. *Holding regional conferences.*—Follow-up conferences give agency officials an opportunity to identify successful practices in progressive districts and to acquaint officials from other districts with such practices. Adminis-

trators and school board members from successful districts can serve advantageously as consultants at other regional conferences.

4. *Holding frequent State conferences.*—Conferences can be used to review progress and to discover successful districts and those needing assistance and encouragement. Professors of education, public accountants, and officials from districts successfully using the Handbook might be invited to attend as consultants.

5. *Making field staff assistance available to local districts.* Smaller districts whose staff members cannot devote a large part of their time to the project may need assistance and information in addition to that covered by the State manual for local guidance. Such assistance can be given to the best advantage by members of the State agency staff who can go to the districts to assist in any or all phases of the project. For example, they can assist local officials in initiating the project, by outlining steps on the basis of priority, and by giving guidance on specific problems.

The State agency will have opportunities to improve the operation of the project by publishing evaluative reports and articles periodically. At some time during the project's second year, the agency might profitably issue an evaluative report summarizing the purposes and accomplishments. At the end of the time allowed for a complete property inventory, the agency might issue an evaluative report that would be beneficial both as a signal to lagging districts and as an appreciative gesture toward districts with completed projects. Agency staff members might also place articles in State educational publications describing the value of a property accounting system to local and State school systems, the steps to take in setting up and using a system, and the current status of the project.

Office of Education plan

The Office of Education will prepare a State guide to Handbook III, using the suggestions made at the conference, and will distribute copies to State agencies. In addition staff members will organize their efforts to assist State and local agencies in a long-range plan similar to the one the guide suggests for State use. Office of Education staff will consult with State and local officials on request, conduct regional meetings during the fiscal year for exchange of information on property accounting, assistance on individual problems, review of the handbook, and discussion of experiences in using handbook accounts. Representatives of States successful in using the accounts will serve as consultants at these meetings.

Office staff members who have been invited to meetings

SCHOOL BONDS—

Sales, Interest Rates, et cetera

... a monthly report by Elmer C. Deering

GENERALLY SPEAKING, the higher the rating of a bond and the shorter its term, the lower its interest rate. These relationships are supported—with one exception—by the average net interest rates for Moody-rated school bonds sold on the primary market during the two latest quarters for which data are available:

MOODY RATING	Oct.-Dec. 1960	Jan.-Mar. 1961
Aaa	2.78	2.86
Aa	3.13	3.41
A	3.47	3.36
Baa	3.81	3.64
Ba	4.16	3.78
All ratings.....	3.52	3.44
TERM		
1-14 years.....	3.00	3.02
15-24 years.....	3.44	3.31
25 years or more.....	3.74	3.60
All terms.....	3.52	3.44

In the regular rise of these figures as ratings go down and terms up, the exception stands out clearly. It is the figure for double-A bonds in the first quarter of 1961, which shows that for the nation as a whole these bonds sold at higher rates than A bonds. The explanation is to be found in one sale, in January, of \$95 million worth of double-A bonds at 3.68 percent. This sale represented

58 percent of all double-A bonds sold in January. Excluding this sale, the rate for January-March quarter was 3.26 percent.

The table shows interest rates for bonds sold for public school purposes in recent months. They are based on figures from the Investment Bankers Association, which reports, with a Moody rating, all sales by issuing agencies that had more than \$600,000 bonds outstanding at the time of sale; in other words, they report about 80 percent of all sales. The issuing agencies include school districts, States, counties, cities, towns, townships, and school building holding companies.

Average net interest cost of Moody-rated bonds sold on the primary market for public school purposes, May 1960-May 1961, by rating

Period	Aaa	Aa	A	Baa	Ba	All rated bonds
1959-60.....	3.26	3.63	3.78	4.21	4.55	3.84
1960:						
May.....	3.24	3.31	3.77	4.13	4.51	3.80
June.....	3.02	3.66	3.62	4.12	4.30	3.73
July.....	3.08	3.37	3.72	4.00	4.47	3.78
August.....	2.81	3.01	3.47	3.73	4.23	3.47
September.....	2.66	3.56	3.48	3.80	4.41	3.51
October.....	3.26	3.54	3.90	3.63
November.....	2.78	3.15	3.39	3.78	4.13	3.44
December.....	2.80	3.09	3.45	3.78	4.18	3.51
1961:						
January.....	2.66	3.57	3.39	3.79	3.66	3.52
February.....	2.85	3.16	3.22	3.50	3.80	3.27
March.....	3.12	3.19	3.44	3.70	4.06	3.46
April.....	3.20	3.38	3.73	4.28	3.43
May.....	2.92	3.22	3.31	3.70	4.09	3.37

Source: Figures reported by the Investment Bankers' Association, which include about 80 percent of the sales.

of national educational organizations to discuss property accounting and the effect of the handbook on procedures of gathering statistics will emphasize problems in using the handbook and their solutions.

In cooperation with State and local officials, the Office will develop uniform inventory and reporting forms that can be used with a systematic object-functioning code adaptable to automatic data processing. Staff members will encourage school officials throughout the country to use these forms.

Since communication is an important factor in the acceptance of any new idea or technique, a two-way flow of information on the project is important. The Office plans to use various means of reporting on the project—news bulletins, feature articles in national professional periodicals, special reports, and discussions at regional and national conferences.

As a part of the Office evaluation program staff members will make yearly surveys to determine the use of the handbook accounts, compile the survey findings and distribute them to States and to educational publications, and keep governing boards of educational associations informed about survey findings.

The question, "Why public school property accounting?" can be answered in this one sentence: To be able to make long-range prudent and wise decisions, school officials must have reliable information to base them on. If educators can prepare records that can be used in comparing and appraising property and in auditing property accounts, they will benefit education and the Nation.

Books for the blind

A LITTLE MORE than a quarter of a century ago, the Congress of the United States appropriated a modest sum authorizing the Library of Congress to establish a library service to the blind on a national basis. With that action of Congress, new opportunities were provided for the blind and the partially sighted to participate in the intellectual and cultural activities of their fellow men, increasing personal development was made possible for a neglected segment of the population, and new and exciting vistas were opened for thousands of American citizens.

Since that significant act by the Congress, interest in the Books for the Blind program has steadily increased. Today the Congress provides an annual appropriation of 1¾ million dollars for the program. Thousands of volunteer workers give hours of service to the work of braille transcribing, and several thousand books—"talking books," books in braille, and books on magnetic tape—are available to the blind on request and without charge.

The program, however, is in no sense a welfare program. It is distinctly a library service offering many of the identical privileges of any community library. It is available to those who have no more than 20/200 vision with correction, and there is no age limit. The Library of Congress, through its Division for the Blind, will send books to any blind person who has been certified and who asks for them. The service is free. There is no charge for broken records, for postage, or for overdue books.

The entire program is under the direction of the Library of Congress, but because of the educational nature of the program, the U.S. Office of Education is eager to cooperate

in disseminating information about the program. The services of the program can be extended only as teachers, school administrators, parents, and the public in general are completely informed on how to get the reading materials.

There are approximately 375,000 blind persons in the United States. About 63,000 of them are served by the Books for the Blind program: Some 10,000 are touch

At a meeting of a Talking Books club



readers and receive materials printed in braille; the rest are audio-readers and receive records and magnetic tapes. More than 9,000 are able to read by both methods. The number of participants in this program is increasing yearly, but there are thousands of persons who are not yet aware of it. Still others are reluctant to participate because they think it is a "welfare" program for the needy. But this is not the category for the Books for the Blind program; rather, it is a national library service planned to make the blind reader more independent, increase his capabilities, his skills, and his vocational aptitudes, and make him a more active member of society.

What kinds of books are available for those who participate? the classics, current fiction and non-fiction, and other kinds that are available to the sighted person in a free public library. There are whodunits, westerns, and books on topics of the day. They include several periodicals; among the most popular are *Readers Digest*, *Newsweek*, and *Senior Citizen*. To meet a steady call for books on vocational training, personal adjustment, self-improvement, and economic advancement, about 150

MR. MOFFITT, an information specialist in the Office of Education, came to the Office in 1960 from the Silver Burdett Publishing Company, where he was in charge of professional publications. For 17 years he was an official of the New York State Department of Education, from 1953-1956 as associate commissioner of education in charge of elementary, secondary, and adult education. He has been a teacher and a superintendent of schools and was, at one time, public relations director for the New York State Teachers Association. He is the author of several books and articles on education and regularly writes the column "Chalk Dust" for The Nation's Schools.

titles have been recorded. Selected textbooks also have been recorded by volunteers and are much in use.

The ratio of older people in our population is steadily increasing. For many a person advancing age is accompanied by impaired eyesight, which he usually first notices as a difficulty in reading ordinary print. When he can no longer read even with correcting glasses, he has reached the point at which he is entitled to services and benefits available to the blind. The use of "talking books" is one of these services. It enables anyone to continue reading without difficulty, without any special training, and at no cost whatsoever. More than 400 of the present clients of Books for the Blind are over 90 years old.

For these people the Library provides many kinds of books. For relaxation it offers books of humor and pleasant tales of everyday life. For those who enjoy the thrill of vicarious adventure it has detective stories and westerns as well as books on travel and adventure, past and present. The Bible and other religious works provide comfort and inspiration. Books on foreign affairs, politics, and the atomic age analyze and expound the problems of these troubled times. Best sellers keep the reader abreast with what the public is buying and discussing. The classics and standard works of literature satisfy the tastes of many.

Although the Library gives special attention to older people, younger readers are by no means neglected. The juvenile book program (for ages 5 through 13), authorized in 1952, contains over 300 titles in braille and many more titles on recordings and tape. To aid educators who want to help partially sighted children through a local school rather than send them to a special institution, the program classifies talking books by school grade and

interest levels. With this information, teachers can select titles to stimulate the reader to higher educational achievements and broaden his interests. The subject matter of juvenile selections is as wide as possible, running from Aesop's Fables and the fairy tales of Hans Christian Anderson to descriptions of the latest achievements of the space age.

How are the titles of Books for the Blind chosen?

Since the reading tastes of the blind are indistinguishable from those of sighted readers, it is the policy of the Division for the Blind to provide in embossed and talking book form the best current and standard books, both fiction and nonfiction. The Library of Congress selects books after consultation with an advisory group of 50 librarians, literary critics, and blind readers. The first step in book selection is the compilation of a preliminary list from best-seller lists, book reviews, and recommendations by readers, librarians, and members of the advisory group. These lists are submitted to the advisory group from time to time for recommendations on the titles which should be recorded as talking books or published in braille. Final selection is based on the desires and needs of the readers as demonstrated by surveys of reading habits and the usefulness and lasting popularity of certain books in relation to others. Because of the relatively high cost of reproduction, it is necessary to limit the books to be reproduced in multiple copies to those which presumably will meet the widest reader preference. Lists of books in which there is serious interest but for which there is limited demand are prepared each month and distributed to volunteer organizations and individuals who will provide the books in single braille copies by hand-transcription.

In a public library



At the Library of Congress



Where may these books be obtained?

Books for the Blind are distributed through 50 State agencies and 32 regional libraries—the cooperating libraries are usually State and municipal libraries, particularly libraries in large cities. The State agency certifies the blind, lends the talking machines, and notifies the regional librarian. Librarians keep records on their clients as to age, reading tastes, and special interests. Most of the circulation is by mail without charge. There are approximately 75,000 machines in use today, maintained and repaired by the lending agencies.

One of the most heart-warming things about the Books for the Blind program is the enthusiastic approval and support it receives from citizens everywhere: from members of Congress who have met requests with increased appropriations, from book publishers who provide copyrighted material without cost, from thousands of volunteer braille transcribers who devote time to special projects without charge or recognition. With the help of all of these the program goes forward.

The volunteer work of the braille transcriber is probably the most heroic and unsung of all. To meet the growing need for single copies or only a few copies of many books or editions, volunteers hand copy hundreds of books. Since the cost of printing these books by press would be prohibitive, these volunteers meet a need which can be met in no other way.

To qualify as a braille transcriber is not easy. Volunteers study braille, take a correspondence course in the production of braille material (and must pass an examination), assume minor expenses for materials, and pledge themselves to accept the Library's assignments without any choice. Only volunteers whose workmanship proves of high quality receive certificates as transcribers. Despite these hurdles, in scores of American communities there are volunteers working independently or through a civic organization at this task for the Library. More than 500 persons were graduated and certified last year. During the current year several hundred books have been copied by volunteers, and hundreds of books transcribed by volunteers in former years are available at the Library.

There are undoubtedly many sighted persons who would gladly do all they could to help the Books for the Blind program. The most important contribution that can be made to the program is to acquaint every person eligible to participate with the simple enrollment procedures and to urge every blind person in the community to participate. Urging community civic organizations to explore and publicize the service would also help the program. For those who can qualify as volunteer braille transcribers, a tremendous new field of service is open.

Complete information is available through the Division for the Blind, Library of Congress, Washington 25, D.C.

Pupil personnel service programs:

THE AMOUNT of grammar and arithmetic the child will absorb is definitely limited if he has an empty stomach, if he cannot see the blackboard, if he has just quarreled with his father, or if there exist other handicapping factors. . . . Efficiency and mental activity at any time depend upon many conditions—physiological, sociological, and emotional.”¹

ADMINISTRATORS of local public schools generally agree with this statement. And agreeing, they encourage their instructional staff members to take a high degree of interest in the individual pupil's physical well-being, his emotional stability, and his social attitudes and to realize that the effectiveness with which he uses his mental capacities is related to these conditions. Many pupils, however, need more attention than their classroom teachers can give them—they need the specialized services provided by pupil personnel workers.

The increasing diversity of pupils as enrollments mount and holding power of the school grows has made more complex the administrative problems associated with the establishment and maintenance of a program of pupil personnel services. In recognition of the need for more information on the rapid growth of supporting and supplementary services, the American Association of School Administrators and the U.S. Office of Education jointly sponsored a conference on administrative staffing in Washington, D.C., during June 1959. The conference participants—school superintendents and other administrators from various parts of the Nation—were asked to identify the developing areas that require specially trained staffs.

In making this identification, the participants pointed out that profiles of pupil personnel service programs in local school systems were needed to supplement their information on program structure and operation. To fill the need, we made a study of such programs in selected urban school districts, using the term “pupil personnel services” to cover attendance, guidance, health, psychological, and social work services. In personal interviews with the administrative staff and pupil personnel workers in 8 urban districts enrolling from 7,000 to 15,000 pupils,

¹ Francis C. Rosecrance and Velma D. Hayden, *School Guidance and Personnel Services*, Boston, Allyn and Bacon, Inc., 1960, p. 7.

Organization and administration

we gathered the data from which we drew the following conclusions (the Office will publish a more detailed report² later in the year):

Diversity characterized the organization of pupil personnel service programs.

In general, the schools studied followed three patterns of administrative organization: (1) specialists were directly responsible to a full-time director of the pupil personnel services, (2) specialists were responsible and reported to the assistant superintendent in charge of instruction, and (3) senior staff specialists coordinated the activities of their associates in two or more services and reported to the superintendent of schools.

Specialists in a given service carried a variety of titles.

Pupil personnel workers responsible for diagnosing, by means of individual intelligence tests, pupils' difficulties in learning were variously called director of elementary guidance, guidance consultant, educational psychologist, school psychologist, psychometrist, and director of tests and measurements. Specialists who provided pupils with educational and vocational information and counseling had such titles as guidance counselor, class adviser, teacher counselor, college consultant, and vocational consultant.

Practices in assigning duties and responsibilities to specialists within a service varied widely.

Many school and community variables influenced the job assignment of the pupil personnel workers. They included (1) number and types of pupil personnel specialists on the school staff; (2) professional training, experience, and interests of the specialists; (3) job descriptions prepared at the local level; (4) state reimbursable programs for staff in special education; (5) pupil enrollment, number and size of school buildings, and area of school district; and (6) community expectations of specialized services.

Some head guidance counselors spent nearly all of their time in administering, coordinating, and supervising the guidance program; others, in face-to-face counseling. One school psychologist spent up to 75 percent of his

time in personal-social counseling; others spent all their time in administering, scoring, and interpreting individual tests. Some attendance officers were exclusively responsible for pupil accounting (absences, tardiness, truancy, enrollment, annual census, and the like); other attendance officers assumed these duties and also investigated adverse home and community conditions which contribute to attendance irregularities of individual pupils. In one school system the attendance officer was responsible for enforcing the school attendance laws and represented the school in court cases involving violations of these laws; he had no pupil accounting responsibilities.

A comparative analysis of specialist-pupil ratios in the eight programs was not very meaningful unless the variations in the duties and responsibilities of the specialists were considered.

The following factors should be taken into account in determining specialist-pupil ratios:

- 1) *Service to exceptional children.* Some specialists spent a part of their time in identifying and placing students requiring special education programs.
- 2) *Administrative duties.* Several specialists spent the greater proportion of their time supervising their department staffs. These specialists carried a modest caseload.
- 3) *Part-time responsibilities.* Some of the specialists, in particular the guidance counselors, spent part of their time teaching or performing a function not directly connected with their area of specialization.
- 4) *Overlapping of services.* If the activities performed by some of the specialists were broken down, they could be classified under more than one service. Some psychologists, for example, did social casework; a school social worker investigated cases of suspected truancy; and a guidance counselor administered individual tests.

A comparative analysis of caseloads among the special-



Dr. Fusco, specialist, school and community relations, School Administration Branch, came to the Office of Education in September 1959 from George Peabody College for Teachers, where he was administrative assistant to the President. Before joining the Peabody staff, he had been a school superintendent in Kentucky and had taught in Westport, Conn. Dr. Fusco conducted the study which he reports here.

² Organization and Administration of Pupil Personnel Service Programs, by Gene C. Fusco, OE-23014, now in press.

CORRECTION

The number of counselors in U.S. secondary schools underwent typographical change in the last issue of *School Life* (June 1961). A sentence in the article by Hyrum Smith, p. 17, should have read as follows:

In 1960, according to State reports to the Office of Education, the secondary schools alone employed the equivalent of 18,700 full-time counselors and supervisors, but they need an estimated 20,000 more to bring the national ratio of counselors to schools from the present ratio of 1 to 610 to the recommended ratio of 1 to 300.

ists was also of little value without consideration of program variations.

Some of the significant factors which must be considered in this type of analysis follow:

- 1) *Broad vs. restricted referral system.* In some school systems, a high priority was placed on intensive, individual, long-term diagnosis; in others, specialists were encouraged to accept as many referrals as were forwarded to them.
- 2) *Definition of caseload.* The term "contacts" was sometimes used by specialists interchangeably with "caseloads." Face-to-face counseling sessions conducted with the same pupil more than once, for example, were referred to by specialists as either a "contact" or a "caseload."
- 3) *Variability of caseloads.* The caseload for a particular specialist often changed during the school year; for some specialists the caseload doubled or was severely reduced within a relatively short period.
- 4) *Recording of caseloads.* Some specialists recorded as caseloads the cases that were reopened during the year; others did not; and still others recorded a case as "closed" only at the end of the year, regardless of when it was terminated.

Organized cooperative efforts among the specialists held wasteful duplication of effort and overlapping of services to a minimum.

Cooperative activities of the staff included (1) case conferences for the purpose of pooling information and arriving at some agreement on disposition of the case; and (2) regularly scheduled meetings of specialists to review policy and procedures in order to determine ways of improving the program.

Pupil personnel workers, it is evident, cannot provide effective services unless other specialists on the school staff assist them. In many schools two or more specialists shared responsibility for providing services to a pupil in need of adjustment.

Channels for the exchange of data, opinions, and rec-

ommendations between pupil personnel workers and specialists in the community seemed to be an important part of a well-developed pupil personnel service program.

Typically, school and community specialists counseled together on the needs of children with severe physical, emotional, or mental maladjustments.

School systems in metropolitan areas were in a highly advantageous position to provide maximum pupil personnel services because of their proximity to city health, psychological, psychiatric, and social work services.

Effective and expanding pupil personnel service programs developed from the activities of vigorous and perceptive educational leaders.

Typically, school superintendents initiated and organized systematic efforts to evaluate pupil needs in order to measure the adequacy of the pupil personnel services program. These local surveys led to expansion and increased efficiency of the services.

Chief school administrators found that, as the various pupil personnel services increased in both breadth and depth, administrative and instructional staff members, parents, and patrons of the school became more aware of the need for the services.

When school administrators called public attention to the need for increasing and improving these services, community support for the program was both firm and dependable.

THE FINDINGS of this study suggest that it is inadvisable for school systems to try to follow a fixed formula in determining the number and types of specialists and the administrative organization essential to an effective pupil personnel services program. Instead the findings indicate that in planning local pupil personnel service programs, school administrators should first seek answers to a basic question: In view of the current physical, emotional, and social needs of our pupils and the kinds of community resources available to us in meeting these needs, what kind of pupil personnel workers should we employ and how many?

They should consider two related and equally important questions: What guidelines should we develop in order to provide staff specialists with some direction on the kinds of services they are expected to perform? On the basis of our particular needs and resources, what type of administrative organization will serve us best?

The evidence in this study indicates that local school systems will arrive at different answers to these questions, and that they will need to reexamine these answers periodically in order to adapt their pupil personnel services program to the changing needs of the pupil population.

AD Minutes Briefly noted--- for the busy School Administrator

Material for this department is prepared by the staff of the School Administration Branch, Division of State and Local School Systems.

School districts could save \$357 of every \$1,000 they spend on fuel.

By cleaning boiler surfaces when schools are not in session and afterward on a regular basis, many school districts could cut their heat losses by 35.7 percent. Soot is at least five times more resistant to heat than asbestos is, and the thicker the soot deposit, the greater the heat loss—as these estimates show:

Thickness of soot in inches	Percent of heat loss
1/32	9.5
1/16	26.2
1/8	45.2
3/16	69.0

Maryland public schools are getting more State support.

The 1961 Maryland Legislature has set a higher basic salary schedule for teachers, raised the allotments for elementary and secondary schools for building construction and for increases in enrollment, raised the allotment to community colleges for operating expenses, authorized a new debt limit for construction of community colleges, and raised the equalizing point for local contributions to the State foundation program.

Guam and Samoa will be using automatic data-processing equipment.

J. R. Trace and M. J. Senter, directors of education in Guam and American Samoa, respectively, report that both places will be using automatic systems this year to process their educational data. In June, when Peter P. McGraw, Office of Education consultant on processing systems, visited the islands, Guam completed the programming for

its equipment, already installed; Samoa was planning for installation. Both places are making these improvements with the aid of Federal funds under the National Defense Education Act.

Teaching should be a full-time job, a salary survey says.

"The modern teacher needs to become a full-time worker . . . with a schedule so arranged that professional responsibilities outside the classroom may be accepted as an integral part of the job of teaching," says the report on a salary survey recently conducted for the Greenwich, Conn., school system. The report proposes a full-day, full-year position assignment for the instructional staff. All extracurricular assignments which now mean additional pay would be considered as an integral part of the teachers' responsibilities. Teachers desiring, needing, or being assigned a shorter work period would be designated as noncareer employees.

The annual budget for Los Angeles city schools is close to \$250 million.

The third largest school district in the Nation is growing fast: enrollment in its nearly 600 institutions of learning rises by 36,000 every year. In addition to its three major divisions—elementary, high school, and junior college—the district provides 43 schools or units for adults and educational services for the handicapped.

Where does the money come from? About 56 percent from real estate and property taxes (in 1960-61 the schools cost the taxpayer \$3.57 for each \$100

of assessed value), 36 percent from State funds, and the rest from miscellaneous sources.

Programs for the culturally deprived have been approved in New York.

The 1961 session of the New York State Legislature made provision for experimental programs in the schools to identify and encourage the potential abilities of pupils from culturally deprived groups.

Missouri is increasing State foundation funds.

With \$182,520,000 provided by the State legislature from the general revenue fund and \$46,600,000 from a 4-cent cigarette tax earmarked for the schools, the schools can meet the minimum financial program outlined by the State during the biennium 1961-63, a substantial increase over the previous biennium.

Librarians have tips for the designers of library windows.

Short windows placed high on the wall are good in libraries, librarians say. They not only provide better light but leave more space for book shelves—and books.

Taxpayers take it out on school bond issues.

The Investment Bankers Association of America observes that local taxpayers straining under a heavy taxload are expressing their displeasure by defeating school bond issues. In 1960, 23 percent of all bond proposals were defeated, many for the second or third time. One result—more schools on double sessions. The region with the best record of acceptance was the South.

High-speed computers will be tested on Pennsylvania school law.

The University of Pittsburgh and the Pennsylvania State Department of Public Instruction are beginning a 2-year research program to find out what the

computers will do when they are set the task of taking a mass of data and making something of it. The researchers will keypunch the cards with all kinds of information about the laws that affect Pennsylvania schools and then transfer the information to magnetic tapes to be run through the IBM computer at the university.

The computer for its part will be asked to produce certain facts on a wide variety of samples.

High pupil turnover is troubling educators in New York City.

In Manhattan, where turnover is higher than in any other borough of the city, three elementary schools have 100 percent turnover; eight others have between 90 and 99 percent. In the city as a whole the median rate is 38.5 percent for elementary schools, 28.2 percent for junior high schools; but in

Manhattan it is 50.9 percent and 46.6 percent.

These figures are from a report by the city board of education's office of research and evaluation, which computes the rates by dividing the sum of admissions and discharges by the total number registered during the year. The board is now looking into the effect of turnover on academic achievement.

The school-community coordinator is a key person in Philadelphia's school-improvement program.

On the theory that what a child accomplishes *in* school is greatly influenced by the attitudes and activities that surround him *outside of* school, the coordinator makes it his job to—

1. Visit pupils' homes.
2. Communicate with parents, by letter and telephone.
3. Keep a file on parents whose tal-

ents might be used to enrich the school program.

4. Help parents make the physical conditions in the home conducive to study and learning.
5. Hold conferences with parents to discuss home and community problems.
6. Recruit parents to take groups of children to concerts, exhibits, and so forth.
7. Organize a program of activities for parents that will enrich life for adults in the community.
8. Join in the work of community organizations.

These contacts with the community are indispensable in Philadelphia's program to improve the education of youngsters in depressed neighborhoods—a program it and 9 other cities are carrying out in a project partly supported by the Ford Foundation.

McMurrin

Continued from p. 2

whatever the quality of individual life in a totalitarian society, a vast potential of national power is provided by the monolithic structure of its purposes and institutions. We must assess our own policies and actions in terms of that power.

OUR TASK, therefore, is a formidable one, and quite certainly the most difficult and historically the most portentous that any nation has faced. It is a task that falls especially on education—to justify the American faith that this Nation, in dedicating its energies to the well-being of the individual, will not only not sacrifice its national character, but will make of itself a citadel of such strength that it cannot fail.

Both the substance and administration of education are involved importantly in this task. Traditionally, while we have recognized that the quality of our national life depends on an intelligent and informed electorate, the aims and purposes of our educational program have been determined almost entirely by the interests of the individual as expressed in his vocational, cultural, or other purposes. We have more or less assumed that the interests of our society taken as a total entity would take care of them-

selves. Indeed, it has not been common even to define the large educational needs of the Nation beyond the necessity of satisfying the proper demands of the individual and local communities.

But now we are confronted by problems of a new order that place upon the educational establishment a social responsibility of new dimensions and greater proportions and that must claim from us a maximum of effort for their solution. Internally and in our relations with the world we are involved in the increasing social complexities that are consequent to vast industrial expansion, the new technologies, and increased intercommunication of all kinds, and it is becoming increasingly clear that we face the risks of serious shortages, misplacements, and imbalances in the education and training of our people that may affect the stability of our economy and the quality of our culture.

Most importantly, we are now in the presence of a new and unknown and persistent danger, where the power of our adversary lies in its capacity to regiment its total human and material resources for its national and international purposes and in its commitment to an economic and deterministic theory of history that describes ours as a dying culture that must inevitably submit to a triumphant communism. It is clear that the age of our simple security and comfort lies behind us and that now what-

ever is most precious to us as individuals and as a nation faces daily the possibility of catastrophic destruction and is at all times threatened by those large and small events that in various and insidious ways may erode our freedom and otherwise affect the quality of our lives.

It is here that we encounter the second factor in the traditional faith of the American people that is now called into question by us, the common assumption that because fundamentally as a democratic people we are on the side of righteousness, our Nation and our culture must inevitably prevail, that whatever the disposition of our individual talents and energies, the future of our society is guaranteed. But recent history gives no support to the easy and unsophisticated optimism that was so long an ingredient of our national consciousness and that in large measure accounts for this simple faith. It is now the beginning of wisdom in such matters to recognize that there are no guarantees and that without a more adequate cultivation of our human resources and deployment of our collective effort righteousness will surely fail and we will fail with it.

However much we may long for the assurances of yesterday, it is against this portentous background of continuing social, political, and cultural crisis that we must define the meaning of education for our society. When we ask the question of our educational responsibilities, the quality of our competence, the extent and depth of our resources, and the strength of our personal and collective commitment to education, we must not forget that we are threatened internally by bigotry, irrationalism, cynicism, complacency, and despair, and externally by an inordinate increase in the power of the totalitarian states and by the prospect of an apocalyptic destruction. And we must not forget that the decision for history is not already written into the necessary structure of events, but will be determined by the balance of statesmanship, of human commitment, and of disciplined and creative intelligence.

WE FACE the monumental task of in every way not only preserving but strengthening the democratic character of American life and institutions, protecting the sanctity of the individual and insuring his integrity against the great social and political weight of the Nation, encouraging him in his uniqueness, his creativity, his spirit of intellectual adventure, his moral courage, and his aspirations, and at the same time building that quality into our Nation as a total entity that will insure its security and give it the strength to triumph in the role of world leadership that history has imposed upon it.

It is entirely proper, therefore, that we pursue with much care the task of defining and describing what have come to be called the national goals—ends to be progressively

A Presidential Message To the Schools On the Physical Fitness of Youth

The strength of our democracy is no greater than the collective well-being of our people. The vigor of our country is no stronger than the vitality and will of all our countrymen. The level of physical, mental, moral and spiritual fitness of every American citizen must be our constant concern.

The need for increased attention to the physical fitness of our youth is clearly established. Although today's young people are fundamentally healthier than the youth of any previous generation, the majority have not developed strong, agile bodies. The softening process of our civilization continues to carry on its persistent erosion.

It is of great importance, then, that we take immediate steps to ensure that every American child be given the opportunity to make and keep himself physically fit—fit to learn, fit to understand, to grow in grace and stature, to fully live.

In answering this challenge, we look to our schools and colleges as the decisive force in a renewed national effort to strengthen the physical fitness of youth. Many of our schools have long been making strenuous efforts to assist our young people attain and maintain health and physical fitness. But we must do more. We must expand and improve our health services, health education and physical education. We must increase our facilities and the time devoted to physical ac-

tivity. We must invigorate our curricula and give high priority to a crusade for excellence in health and fitness.

To members of school boards, school administrators, teachers and pupils themselves, I am directing this urgent call to strengthen all programs which contribute to the physical fitness of our youth. I strongly urge each school to adopt the three specific recommendations of my Council on Youth Fitness:

1. Identify the physically underdeveloped pupil and work with him to improve his physical capacity.
2. Provide a minimum of fifteen minutes of vigorous activity every day for all pupils.
3. Use valid fitness tests to determine pupils' physical abilities and evaluate their progress.

The adoption of these recommendations by our schools will ensure the beginning of a sound basic program of physical developmental activity.

In our total fitness efforts the schools, of course, will not stand alone. I urge that in all communities there be more coordination between the schools and the community, parents, educators and civic-minded citizens in carrying forward a resourceful, vigorous program for physical fitness—a program that will stir the imagination of our youth, calling on their toughest abilities, enlisting their greatest enthusiasm—a program which will enable them to build the energy and strength that is their American heritage. JOHN F. KENNEDY

achieved for the well-being of the individual and in the domestic and international life of the state. We can depend neither on fortuitous complexes of circumstances nor accidents of history to satisfy our national purpose. Nor can we emulate the totalitarian states in the manipulation and

regimentation of our people in satisfying such demands as the technological manpower needs of our economy. The former would invite continued confusion; the latter would destroy the very foundations of our democratic life. Rather we must protect the quality of our society by preserving a genuine individualism that encourages and in various ways rewards independence in thought and action while at the same time we clearly identify the large needs of our society and move to satisfy them. This will demand in the individual a sense of civic purpose and dedication and a genuine internal moral and intellectual discipline. In the Nation it will mean the collective effort of our best minds in determining the courses proper for social action and will require a large measure of trust, mutual confidence, and faith in the processes of democracy. It is not enough that we do as well as was done in the past. Our Nation is in deadly peril and it must now achieve a degree of competence and strength that has not before been known. But this will surely be possible if we are willing to command our resources and our talents with a firm determination.

That this task places upon our educational establishment an enormous burden is entirely obvious. It means at the outset that we must overcome the vestiges of complacency and the business-as-usual attitudes that are still with us, that we must cultivate a taste for that rigorous criticism that is essential to any institutional or civic progress, and that we must resist the constant temptation of a provincial posture on the functions proper to our educational institutions. Our local isolations are gone and the isolation of our Nation is gone. What we now do in our schools has importance not only for our immediate communities but for the Nation and for the world.

The problem of the individual and his society, or the individual and the state, is not a simple one. And it would be an error to suppose that the future task of the administration of education in the matter of the individual and the national goals will not encounter great difficulties. But the difficulty of our task must not deter our effort and our determination. Of central importance here are the educational functions proper to the Federal Government and the various relationships that obtain between agencies of the Federal Government and the educational institutions themselves as well as their governing bodies in the States and the local communities. The related questions of Federal aid to education and Federal control of education are basic to any discussion of these issues.

I would like to make it unequivocally clear that I regard Federal financial support of education as justified on grounds of both principle and practical necessity, that I am fully committed to the control of the public schools by State and local authority, and, further, that I believe

that the enactment of the Administration's proposals for Federal aid now before the Congress, which have my full endorsement, would in no way result in Federal control of education or endanger the values traditionally attached to local control.

The justification for Federal financial support of education is simple and compelling. In principle it is the obvious fact that education both in general and in specialized forms nourishes the welfare of the people and is in the national interest. In practice such support is justified by the plain fact of financial need that some States or communities are either unable or unwilling to satisfy. The extent and quality of education throughout the Nation are now of urgent concern to every public-minded citizen. We cannot afford weak links in our educational system. We cannot afford any longer the waste of human resources that we have indulged in the past.

The Federal Government has invested public funds in education since before the adoption of the Constitution. For the fiscal year 1959 alone, which provides the latest complete figures, the expenditure, exclusive of loans, was nearly two and one half billion dollars. It is not likely that most of those who today oppose Federal aid on the basis of principle, or who believe that it is inevitably conducive to Federal control, would advocate that the laws authorizing this expenditure be abolished. They know that the advanced state of our science, agriculture, and the vocational arts is due in considerable degree to Federal expenditures in their support. And they know full well that the expenditure of these funds by agencies of the Federal Government, however much it has affected and influenced the quantity and character of American education, has not wrested the control of the schools from private, State, and local administrative agencies. And they know that if these Federal funds were not forthcoming they could not be replaced from other sources.

If the present Congress does not enact substantial educational legislation, it will be a great loss for the Nation, for not only will there be a deficiency of funds necessary for the improvement of our educational establishment, there will be also the discouraging evidence that the American people are not fully committed to decisive united action in the solution of one of their most crucial problems.

There is much to be said for preserving our established pattern of local control of education. My own position on this matter is not dictated by any fear of the Federal Government, because I am unable to think of the Federal Government as belonging less to the people than do local governments, and the facts are quite plain that there is not less competence or integrity in Federal office than in private places or in local public office. But it is very im-

portant that the schools be kept close to the people whom they serve and that the people not only maintain a vital interest in them but assume as well the primary responsibility for their support, their operation, and their quality. Moreover, control of the schools by the Federal Government would inevitably result in a degree of standardization in curriculum and practices that could destroy much of the variety and diversity in American education that are basic to the pluralistic quality of our society. Without genuine diversity in the foundations of our culture, life in our society would lose much of its personal character and would take on the dull mechanized quality that is so characteristic of life in the totalitarian states. But more important, that diversity is indigenous to the very character of our freedom.

Our task, therefore, is one of great difficulty, for we must protect the local foundations and control of our schools, assuring that they will adequately serve the individual and his community, and at the same time move the Nation closer to the goals set for it by both its domestic and international affairs. This means that we must achieve both general and specific national perspectives on the problems of education, perspectives that will enable us to fashion our educational establishment more nearly in accordance with our common needs in manpower, knowledge, and creative talents and to bring our educational resources more readily to the solution of those large social and economic problems that will continue to face us both at home and abroad. Without such perspectives, to which we must all contribute, through private, local, State, and Federal agencies that relate either directly or indirectly to education, we will have no assurance that our educational program will be adequate to the large tasks ahead.

We may take confidence from the fact that our educational establishment has firm foundations and that with an increasing measure of public interest and support it is moving steadily in a good direction. Nothing in the whole life of our culture justifies our pride more or is a more profound source of our strength than the intellectual freedom that characterizes the pursuit of knowledge in our schools and universities, or the universal character of our education that has brought us near a general literacy and has produced such a large measure of knowledge and disciplined intelligence. We must protect these at all costs.

Today the ugly forces of suspicion and false representation are again threatening our civic trust and unity. There are new accusations of disloyalty and there is new talk of special oaths and tests of loyalty in education. This could be the beginning of a new moral confusion in the public mind that might well compromise the precious quality of our intellectual freedom. It must be resisted

with great strength, for when that freedom is lost, all is lost.

And there is a not inconsiderable reaction against the democratic character of our educational policies and practices in favor of an aristocratic philosophy of education that would lodge our confidence in a highly cultivated elite rather than in the generality of well-educated people. We must never forget that the most precious qualities of our Nation are inextricably tied to our democratic education. One of our most pressing responsibilities is the achievement of greater intellectual rigor and excellence at all levels in our schools, colleges, and universities, for we must exact from our students, teachers, and research scholars an ever larger measure of achievement in knowledge and creative activity. But this can and must be done within the framework of our indigenous educational philosophy that is in principle oriented to the meaning and purposes of a democratic society.

OUR SCHOOLS and universities are integral to the very character of our society and our national life. Their strengths and weaknesses are the strengths and weaknesses of our society. Their achievements are to the credit of the entire community, as the community must bear the responsibility for their failures. By and large the American people have received the kind of education they have wanted and have been willing to pay for in talent, effort, and money. Now, with an increased sensitivity to the profound value and importance of education relative to both the internal and external problems of the Nation, they are asking for a general tightening up in the quality of our institutions and a more exacting demand for scholarly productivity. Fortunately there is good evidence that they are now willing to invest a larger measure of their human and material resources for this purpose. Whatever difficulties we may face in the administration of education or in its substance, it is our responsibility now to secure for them this higher excellence and larger productivity. Nothing less than this is worthy of our abilities or of our commitment to high purpose.

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By Abul H. K. Sassani, January 1961, 55 pp., 40 cents (OE-14057).

Engineering Enrollments and Degrees, 1960.

By Wayne E. Tolliver and Henry H. Armsby, 1961, 44 pp., 35 cents (OE-54006-60).

Enrollment and Degrees in Agriculture: Institutions of Higher Education, September 1960.

By Henry S. Brunner, 1961, 70 pp., 45 cents (OE-56006).

Enrollment for Advanced Degrees: Fall 1959.

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